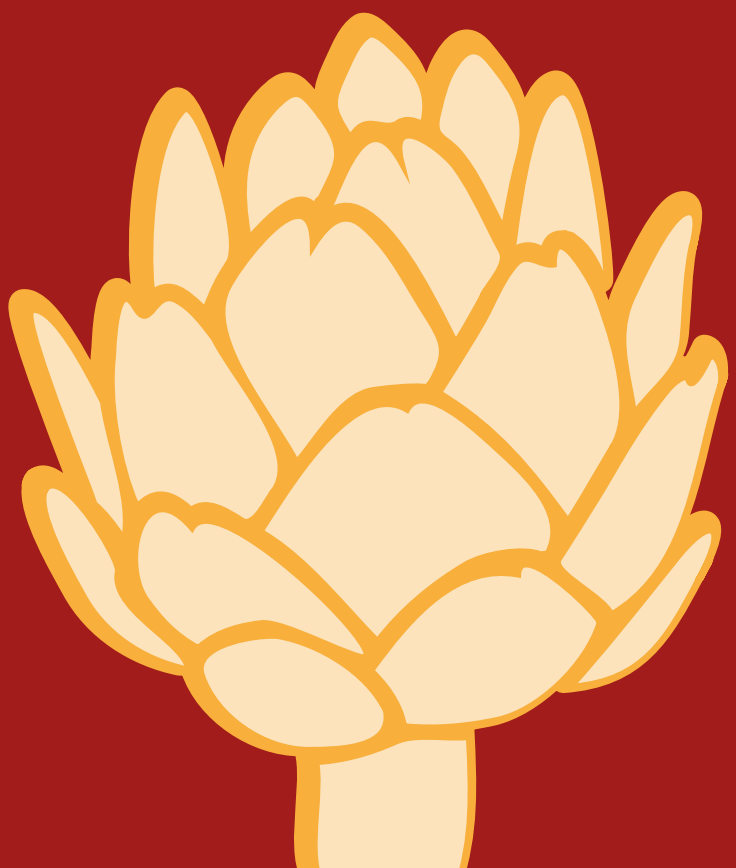
# Dimensions of Mediterranean Diet

WORLD
CULTURAL
HERITAGE



UAlg
UNIVERSIDADE DO ALGARVE

DIETA MEDITERRÂNICA
Algarve / Portugal
Comunidade Representativa Tavira

**CREDITS**

EDITION
Universidade do Algarve, 2015

COORDINATION
Ana de Freitas
João Pedro Bernardes
Maria Palma Mateus
Nídia Braz

TEXTS BY
António Covas
António Faustino Carvalho
Carla Moita Brites
Catarina Oliveira
Isidoro Moreno
João Guerreiro
João Pedro Bernardes
Jorge Queiroz
Luís Filipe Oliveira
Margarida Costa
Maria das Mercês Covas
Maria Elvira Ferreira
Maria Manuel Valagão
Maria Palma Mateus
Pedro Graça

GRAPHIC DESIGN
TVM Designers

PHOTOS
Stills Fotografia
CIIPC/CMVRSA (p. 85)
Museu Nacional de Arqueologia (p.138)
J.P. Bernardes (p. 143)
Karsti Stiege (p. 147)

TRANSLATION
Expressão -– Centro de tradução e formação, Lda.

ISBN 978-989-8472-74-8

ALGARVE 21
PROGRAMA OPERACIONAL

QUADRO DE REFERÊNCIA ESTRATÉGICO NACIONAL
PORTUGAL 2007.2013

UNIÃO EUROPEIA
FEDER

# Dimensions of Mediterranean Diet

WORLD
CULTURAL
HERITAGE

UAlg
UNIVERSIDADE DO ALGARVE

DIETA MEDITERRÂNICA
Algarve / Portugal
Comunidade Representativa Tavira

CONTENTS

# Foreword

A book dedicated to the definition of Mediterranean Diet as Intangible Heritage of Humanity is necessarily a book about Culture. When it is published in Portugal, at a time when we are dominated, particularly over the past four years, by an Eurocentric view dictated by the great economic, financial and political power of Central European countries, as a result of the country's membership of the European Union and the Eurozone, this book is also a vigorous wake-up call to the need to recover a part of our identity obliterated by such Eurocentrism.

It is a fact that the urban culture currently prevailing in Portugal has led us to forget the important common legacy which has been built over millennia in the Mediterranean Basin. Speaking of "diet" in its narrowest sense, this is evident from the acculturation which has beset our eating habits as well as many other aspects of our collective lives: the music one hears on the radio, the most successful TV programmes, the central themes of the political debate, the guidelines for our (scarce) agricultural and fish production, and even foreign policy itself. Indeed, most of us have turned our backs to the same Mediterranean without which we could never have become who we are today,

as if the surface of who we are had wanted to disguise the crossbred nature of us all.

To ignore a legacy of such importance in the name of an acritical immersion into featureless cultural practices is, in itself, a sign that the educational system has surrendered, over decades, to nouveau riche cultural ideologies, leaving behind its most relevant missions to help each individual to acknowledge their identity in a historical continuum that transcends them and is their duty to preserve and pass on, lest they run the collective risk of floundering into oblivion. For this reason, the fact that this book was organised within the University of Algarve (which recently included the topic of the Mediterranean Heritage in its Strategic Plan) is cause for great joy because it means that we do not succumb to the widespread oblivion, and persevere in our efforts to make visible the roots of the splendid tree that we really are.

Faro, June 2015

ANTÓNIO BRANCO
*Dean of the University of Algarve*

# 1

# Two perspectives and one testimony

# The Mediterranean, a breeding ground of innovation

JOÃO GUERREIRO
Universidade do Algarve

Any reflection on the history, the people or the technologies of the Mediterranean world is not only an intelligent challenge, but also means a gratifying fascination. We are enraptured, among other things, by the history, the culture, the art, the science, the mythology, the trade, the navigation, the religions, the food, the flavours, the attraction (just witness the tourism), the luminosity, the temperatures, the aromas, the architecture, the building materials. It is a civilisation, with all its components, that is present in various wanderings across the Mediterranean, evoked by observations, works and writings by painters, novelists, geographers, historians, doctors, and many other professionals who adopted this region as an object of cult and a source of inspiration.

Braudel (1987) drew attention to the crossroad of routes, civilisations, landscapes, seas, recognising that travelling on the Mediter-

ranean meant finding the Roman world in Lebanon, pre-history in Sardinia, Greek cities in Sicily, the Arab presence in the Iberian Peninsula or Turkish Islam in Yugoslavia.

The Mediterranean continues to creep in like a space at once archaic and innovative, the cradle of civilisations and a source of conflict, the breeding ground of knowledge and technologies, experienced in trade and movement, the custodian of a food culture that is possibly the most balanced in the world.

The history of the Mediterranean is this remarkable succession of arts, techniques and living standards, the legacy of a special environment for reflection, intervention and affirmation that attracted successive waves of traders, warriors, knights, crusaders, clergymen, driven to action to ensure new dominions, and enable access to its riches but also deliverance from evil.

It's worth recalling the definition given by Braudel to the Mediterranean: "... A thousand things at the same time. It is not one landscape but numerous landscapes. It is not one sea, but a complex of seas. It is not one civilisation, but a number of civilisations, piled one above the other. (...) For several millennia, everything centred, muddling, yet enriching its history: men, pack animals, vehicles, goods, ships, ideas, religions, ways of life".

Cláudio Torres, in his assessment of the Western Mediterranean, never tires of stating that, notwithstanding the belligerent expression specific to the rulers who marked different eras, there is a continuity in rural communities that ensures the settlement of the territory in terms of techniques, customs, cultures, in short, the

ways in which they make the most of land resources and ensure their collective life.

Many of the traces of the civilisations which emerged and developed in the Mediterranean are today a part of the collections of the most visited museums in the world (Queiroz, 2014). Albeit true, we should add that, paradoxically, many of these museums are outside the Mediterranean area. Cities like Berlin, London and Paris, to name just a few, lend prestige to some of their museums by displaying materials taken away from Mediterranean regions under past colonial campaigns. Suffice it to cite the Pergamon Museum in Berlin to get an idea of the huge flow of materials that were forcibly taken by the Northern armies, in this case of the Prussian Empire, and transferred to museums that today are a central tourist attraction in these cities.

The Mediterranean/Northern duality is cyclically evoked, translating into the deep divide which persistently prevails between social models. Our communities are characterised by close conviviality, the collective habit of chatting, the enjoyment of the public space, with the benefit of an inviting climate and urban structures that are both suitable for this conviviality. This model competes with the coldness, the individualism (in its negative sense), and the mercantile ethics of the Northern countries. The north-south conflict is a reality of our time.

It was also in the Mediterranean area that urban life developed and trade earned the status of a simultaneously economic, social and cultural activity. Trade was the great organiser and driver of cities,

forging urban growth, fostering the concentration of families, trading posts, stores, administrations and structuring the main axes of transportation. It should be recalled that the Mediterranean cities began to be settled more than 5,000 years ago, in Mesopotamia and Egypt, while the Northern cities are no older than 600 years.

Many of the productive patterns in the Mediterranean are misunderstood by the North, and there is even a colonisation of standards, explanations and scientific knowledge that do not fit our biophysical reality. I put forward the agro-silvo-pastoral systems, which prevail in Southern Portugal and generally in the Mediterranean regions, to illustrate what seems to the Northern peoples like an exotic system, seen almost as an obsolete trace of the past. These systems are disregarded by the North, used to exploit simplified natural systems and to not see diversity as a Southern feature. In the North, forestry, for example, is essentially geared towards timber production, through simplified, timber-focused production systems. In the South, these systems are always analysed from a multiple use perspective and are associated with the production of fruit, seeds, resins, gums, essences, fragrances, chemical and medicinal products, bark (such as cork), fibres, tannins, etc. (Guerreiro, 1991), options with economic value but often underrated by the Northern peoples. This duality is permanently under pressure from extraneous prevailing patterns which have nothing or very little to do with the Mediterranean natural and social dynamics.

This differentiation is also clear in other areas. It is in the landscape, full of diversity and a great natural generosity, that the agri-

cultural and rural reality of the Mediterranean lies today. It should be recalled that this geographical region is currently under a new surge in development that translates into the demand for quality natural foods, the identification of substances of plant origin incorporating new drugs which are less aggressive to the human body, and the landscapes which continue to be sought after for their mild climate, strong light and aromas with which the wild world scents the air.

This set of features, which also determine a balanced diet, justified the inclusion of the Mediterranean Diet in the UNESCO list of Intangible Heritage of Humanity.

**BIBLIOGRAPHICAL REFERENCES**

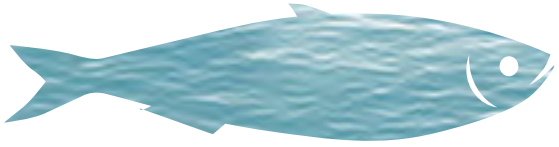
BRAUDEL, F. (1987), *O Mediterrâneo: o espaço e a história*, Lisboa, Editorial Teorema.

GUERREIRO, M. GOMES (1991), *O mundo mediterrâneo, sua diversidade e seu futuro*. Loulé.

QUEIROZ, J. (2014), *A dieta mediterrânea, uma herança milenar para a humanidade*, Lisboa, Editorial Althum.

# Mediterranean diet: a multifaceted reality

PEDRO GRAÇA
Faculdade de Ciências da Nutrição e Alimentação
da Universidade do Porto



The "Mediterranean Diet" is, in its literal sense, a way of living specific to people who live close to the sea, between lands. From the Greek – δίαιτα – "way of living" and the Latin – *mar mediterraneum* – "the sea between lands".

So to understand the Mediterranean Diet (MD), it is necessary to reflect on the fact that, for centuries, the Phoenicians, the Greeks, the Romans, the Arabs and all the other peoples from this region had a navigable inland sea, which enabled knowledge, utensils, genes, plants and animals to be shared. And this influenced decisively our way of thinking and living.

So much so that communities living thousands of kilometres apart shared a similar lifestyle. This inland sea played a key role in the life of coastal communities because it afforded a true technologi-

cal, cultural, religious and even human revolution. The Mediterranean seas were thus the first communication highway. But not only this. The waters of this temperate sea that extended inland allowed thermal ranges to be reduced, which made the survival of Mediterranean species easier, enabling the growth and acclimatisation of plants from the East, such as the olive tree and the vine, and later, the settlement of a whole range of fruit and vegetables, currently featuring in the Mediterranean vegetable garden.

The Mediterranean vegetable garden was only possible and gained ground with the advent of the Arab irrigation technology. But also because the shortage of water and the high temperatures made it impossible to have permanent pastures for larger herbivores to feed, as happened in Central and Northern Europe. This explains the extensive use of vegetables to the detriment of foodstuffs of animal origin. It also explains the use of goat's and sheep's cheese proteins, as these animals had sufficient mobility to look for pasture where it existed. This is a food culture which, from early on, looked to the sustainable production of large quantities of foods all year round. And it has all along focused on their conservation, through drying, salting and smoking (cod, octopus, sardines, various sausages, bacon, etc.), knowing that, in many instances, nature was not on the side of the population. It is not surprising, then, that there is a constant reference to collection and a near devotion to wild products. Like a kind of emergency assistance when the farming seasons were bad. Just see the regional passion for snails. The pleasure/need or the "genetic drive" to catch bean clams by the sea. And the constant presence of

purslane, asparagus, parsley, coriander or watercress in soups, with eggs or bread-based stews. Not to mention dried products, such as figs, almonds and even carobs, available when there was a shortage of other caloric forms. This vegetarian eating model, flavoured by animal proteins, represents an environmentally sustainable and frugal pattern, able to foster the populations' health and capacity to work. All this without losing flavour or local specificity.

This need for permanent adaptation to what the soil has to offer at any one time, which survives scarcity by skilfully mastering culinary technique, perfected over the centuries and passed down among families over the generations, has created a unique culinary art. And a deep relationship with the cycles of nature and also with religion which, more or less directly, celebrated it. For Mediterranean Neolithic man, meeting his food needs implied survival, to which he devoted most of his time. The precious knowledge garnered from securing food, its preparation, conservation and consumption was recorded within the communities, often in ritual form, given its importance for the survival of future generations, and it was often listed in the main historical records of this region. Currently, the Bible, the Koran and the Talmud contain many entries related to food, as well as suitable instructions on how to prepare and eat food. For many, these written statements on what to eat and when to eat were extremely useful information for survival and the affirmation of those human groups that followed a given religion. Food, however, cannot be seen from this functional perspective alone. The human being is endowed with conceptual thinking, assigning symbolic value to most mate-

rial goods and to food, in particular. Since food is a scarce, precious commodity, relying on a poorly understood nature, which is whimsical and especially irregular in the Mediterranean (water shortage is a case in point), symbolism gains here its full expression. Food in the Mediterranean world, therefore, reflects in a world of pagan and religious symbols, mixed up in most cases, featuring, for instance, constant gratitude for fertility.

Over the last few years, the scientific community has sought to find various nutrient consumption models that enable human beings to live longer and with a better quality of life. Despite the many uncertainties, it has been possible to define a set of nutritional recommendations that are consensual in some areas. They are the basis of the individual work of nutrition experts and other health professionals. The difficulty of putting these recommendations into practice, i.e. turning nutritional recommendations into food recommendations, stems from the difficulty of changing globally accepted concepts (the nutritional needs of human beings) into concrete local policies which meet the goals of local agricultural production, environmental protection and education models which may vary according to different development models. In a way, the Mediterranean Diet responds to many of these issues. Being a dietary pattern whose offer is predominantly of plant origin, environmentally friendly, local and incorporating a high diversity of seasonal products, it responds to many of today's concerns with regard to food production, transport and consumption. Although the relationships between diet and health are enhanced by this way of eating, observable through the

epidemiological research conducted over the last 50 years, this food pattern shows other perspectives that need to be envisaged: food as a cultural act and as a decisive factor in the protection of the environment. These two points are even more decisive for Southern European communities where climate change and cultural erosion are seriously affecting human systems.

However, food consumption is also increasingly dependent on an extremely complex and dynamic food system, comprising long chains of actors and products, many of which are of unknown origin. To understand this system, extensive knowledge is required which the public cannot entirely grasp. It is in this context of increasing reliance on anonymous institutional actors that the need for trusting something or someone should be understood. And it is also in this context that national and European food agencies have sprung up, with their strategies to increase control over food production and transport. They are most frequently related to traceability, information and education for producers and consumers, as well as labelling. However, despite improved information systems, the dynamics of trust still rely on knowledge about producers, local production and culinary practices across generations, now combined with different technologies.

It is within this multifaceted model, in which tradition and innovation complement each other, that the principles of the Mediterranean diet are laid down in Portugal. A simplified set of 10 principles symbolising the relationship between Mediterranean man and food production in the territory around him:

1. Frugality and simple cuisine based on preparation that protects nutrients, such as soups, stews, casseroles and bouillabaisses;
2. High consumption of vegetables to the detriment of products of animal origin, namely horticultural products, fruit, quality bread and unrefined cereals, dry and fresh legumes, dried and oil fruits;
3. Consumption of vegetable products, locally produced, fresh and seasonal;
4. Consumption of olive oil as the main source of fat;
5. Moderate consumption of dairy products;
6. Use of aromatic herbs for seasoning instead of salt;
7. More frequent consumption of fish compared with a low, less frequent consumption of red meat;
8. Low to moderate consumption of wine and only at the main meals;
9. Water as the main drink during the day;
10. Conviviality around the table.

However, if not preserved, this set of foods, techniques and knowledge may be lost. This is a fragile, yet important heritage for health, but also and most importantly for the preservation of the regional identity and culture. It is also extremely important for the economy and for differentiating the region as a tourist destination. The University can and should emerge as a driving force behind this knowledge. Knowledge about the composition of local foods, their history, the inventory of community food patterns and their integration in local cultures is currently undertaken by various institutions in the Mediterranean Basin. It is a unique opportunity to link similar

scientific institutions and researchers that have a great deal to share. This is a cultural heritage that has been built over the last 8,500 years. But it is also a fragile one. This is one of the reasons UNESCO has decided to preserve this contribution to the intangible heritage of humanity, giving it the status of a fragile, valuable resource that needs to be preserved for future generations. This is a huge challenge for the coming years. And a great opportunity as well. For development and for the affirmation of the Algarve society and beyond.


SALVA-VIDAS

# The Mediterranean Diet and UNESCO: brief memory of a world recognition

JORGE QUEIROZ
Câmara Municipal de Tavira
Universidade do Algarve

The "Mediterranean diet", until its recognition by UNESCO as Intangible Cultural Heritage of Humanity, trod a 25-year path which involved studies and debates by hundreds of specialists from various countries, including Portugal.

The reasons behind this long process could be explained at length; this, however, does not fit the format and objectives of this paper.

The origin of "Mediterranean diet", as a commonly accepted concept, dates back to ancient times and the transformation of the Mediterranean Basin into the cradle of extraordinary civilisations where productive activities, navigation and trade, religions and sciences, cities, occupation and settlements, gave origin to a cultural model and food patterns which have prevailed to this day and are the basis of what is called today "western civilisation".

This lifestyle, which the ancient Greeks called "diaita", was passed on for millennia to many generations.

The "Mediterranean diet" follows the astral cycles, equinoxes and solstices, as markers of agricultural work and cyclic festivities, in which the produce and the dishes typical of each season always feature. This way of living, closely linked to family and local agriculture, was the mainstay of the balance between man and nature, expressed in cultures based on sharing and community help.

From a strictly dietary perspective, it is characterised by frugality and simplicity, and the consumption of fresh seasonal produce, locally produced. The meal table is a key focus for conviviality and the transmission of knowledge between family members and in village or neighbourhood communities.

For centuries there has always been an awareness of the relationship between food and health, as evidenced by ancient manuscripts and reports.

In the 15$^{th}$ and 16$^{th}$ centuries, Portugal and Castille took the values and practices of the Mediterranean culture all over the world. For this reason, today, almost one billion people speak the two main Iberian languages, Portuguese and Castillian, and identify with the food traditions, and the cults and festivities, which form the legacy of colonisation and miscegenation.

With the Industrial Revolution, rural populations traded the countryside for the cities on a massive scale for the first time in human history, leaving behind a rich wealth of empirical knowledge on nature, collective survival and food self-production. This

led to a break in community ties, the disappearance of the extended family and the devaluation of cultures based on mutual help and sharing.

As agriculture underwent industrialisation, scientific and technological discoveries, together with the demographic boom and urban development, the displacement of armies to theatres of war worldwide, focused on food production, nutritional health and epidemiological outbreaks which have since gained global relevance.

International recognition of the "Mediterranean diet" stemmed from the research undertaken in the early decades of the 20th century and, particularly, that conducted in the 1950s by an international team led by the North American physiologist Ancel Keys, himself involved in the development and production of rations for combat troops in the American armies during World War II. The impact on the scientific community and on public opinion of the results of the study "*Seven Countries – a Multivariate Analysis of Death and Coronary Heart Disease",* funded by the Rockefeller Foundation, was instrumental as it presented the findings of the responses to a survey of 12,000 adults in seven countries from three continents: Greece, Italy, Yugoslavia, Japan, Denmark, The Netherlands, Finland and the United States of America.

The analysis observed acute differences in the incidence of cardiovascular and coronary diseases and greater longevity of populations, indicators that were favourable to the Mediterranean countries compared to the richer and more developed regions of Northern Europe and the USA. Northern populations consumed daily 50% more calo-

ries than those from the Mediterranean, and also more animal fats and less foods of plant origin, and this formed the basis of a true epidemic and high frequency of cardiovascular episodes associated with higher blood cholesterol levels.

From then on, the "Mediterranean diet", as it was dubbed by Ancel Keys, was the object of debates and updated studies promoted by the international scientific community which essentially confirmed the theses on the correlation between food and diseases. It was also observed that cultural and religious factors, as well as lifestyles, had an impact on both the diet and the health of the populations.

In the 2nd half of the 20th century, Europe was finally at peace, and an economy emerged with a strong technological component in which services predominated; this was reflected in the family and "citizen-consumer" model, away from family farming, dependent and with no control over food quality. A mass-produced, quite affordable and cheap diet was introduced, based on highly processed foods.

The new social model, known as "consumer society", was and is supported by the powerful global financial system, by marketing and the media, cultural industries and fashion, which subsumed and promoted a new system of values, standardising behaviours and concentrating resources.

Public health and nutrition policies became reactive, in the sense that States began to act as a result of the emergency, progression and seriousness of the so-called "civilisation-related diseases", spread all over the globe.

Over the last few decades, UNESCO, today comprising 195 Member States, aware of the serious risks to the well-being of mankind brought about by the destruction of ancient cultures and ecosystems, approved various international agreements to protect the natural and world heritage. In 2003, the Convention for the Safeguarding of the Intangible Cultural Heritage of Humanity was adopted, and was ratified by Portugal in 2008.

It is against this background that one can understand the importance of the "Mediterranean diet" as a cultural model in favour of the enhancement of territories and regional or small-scale economies which foster food patterns inducing the good physical and mental health of the populations.

Modern phenomena and social needs gave rise to new scientific disciplines, such as nutritional, cultural heritage and environmental sciences, among others, to specialised university courses and to new professions.

In Portugal, a degree course on Nutrition was created in Porto in 1976, preceding the current Nutritional Sciences course, and in the 1980s and 1990s, in keeping with other European countries, there was a significant development in cultural, nutritional and environmental research, in broad terms, with comparative studies undertaken by Portuguese researchers and an extensive scientific production.

## THE APPLICATION AND INSCRIPTION OF THE MEDITERRANEAN DIET BY UNESCO

In the first decade of this millennium, institutional leaders and specialists from various countries considered that the inscription of the **Mediterranean Diet** in the UNESCO Intangible Cultural Heritage Representative List (ICH) could give higher visibility to, and gather support for the protection of this heritage and promote intercultural dialogue at regional and international level, particularly among the populations of the two Mediterranean shores.

In Spain, a country related to Mediterranean nutritional research, "Fundacion Dieta Mediterranea" was founded in Barcelona, an institution which, together with the *Ministério de lo Medio Ambiente y Medio Rural y Marino* – MARM, had a key role in the inscription of the **Mediterranean Diet** by UNESCO in 2010. The application of the **Mediterranean Diet** to UNESCO Intangible Cultural Heritage of Humanity took place in 2007, as a result of a **Declaration** by the Scientific Committee of the *Fundacion Dieta Mediterranea*, although prior actions conducted in other countries also contributed to this intent.

The initial process was conducted by Spain and the **Mediterranean Diet** was declared to be Intangible Cultural Heritage of Humanity by UNESCO on 16 November 2010, at the 5th session of the UNESCO intergovernmental committee, held in Nairobi, Kenya, a decision based on a joint proposal from four countries: Spain, Greece, Italy and Morocco.

The grounds for the approved application considered the **Mediterranean Diet** to be a set of traditional practices, knowledge of

nature and the universe, know-how on production and food preparation passed on through the generations, which give continuity to a sense of belonging in the communities.

The non-inclusion of Portugal in this application and the recognition by UNESCO caused some perplexity, especially in the medical sector and among professionals more directly linked to public health-related epidemiological problems. Some Portuguese organisations, notably the Portuguese Foundation of Cardiology, drew the attention of the Portuguese authorities to the importance of the country also joining the project, since the the application's philosophy considered the evolution and extension to other countries and communities. A new application immediately began to be prepared.

During the UNESCO 2010 meeting in Nairobi, the Portuguese Ambassador formally expressed to the other countries Portugal's wish and interest to join this international project, which was welcomed by all.

In January 2011, the Portuguese Government, through the Ministry of Agriculture, Rural Development and Fisheries – MADRP, decided to prepare a new application to be submitted for the approval of the other States. The community of Tavira, in the Algarve, the most Mediterranean of Portuguese regions, was chosen to represent the country and charged with preparing the technical application process.

Portugal chose Tavira for its Mediterranean land characteristics, environment and ancient cultural heritage, the existence of structures and wealth of Phoenician, Roman and Islamic origin, the diversity of

its cultural landscapes, its Algarve dryland orchard, agricultural production and fishing activities, the catching of tuna and octopus, its saltworks and the collection of bivalve molluscs, olive growing and bee keeping, cyclic festivities and various traditional cultural events.

As a first direct contact with international partners, a small delegation participated in a Conference on the **Mediterranean Diet**, on 24 to 26 February 2011 in Pollica/Palinuro, in Southern Italy, and on this occasion permission was asked for Portugal to attend the meeting of the four States as an observer. The request was accepted with the possibility of intervening and explaining Portugal's intention to join.

The response of the political and institutional representatives was favourable to the Portuguese desire, and this was later substantiated in the formal agreement of the four countries and the joint preparation of a new application which, on approval by UNESCO, would replace the former.

A letter of formalisation, meeting the interests of the Portuguese State, was signed by the Ministers of Agriculture, Rural Development and Fisheries and of Culture in May 2011, and sent to the Minister of Culture of Spain, requesting the support and agreement of Spain to open up a new process for the new joint application. The same document indicated that Tavira had been chosen as Portugal's representative community.

At a formal meeting of the four States the go-ahead was given to the joint application extended to other States. In addition to Portugal, Croatia and Cyprus also expressed their interest in joining;

however, Jordan and Algeria, likely countries to join in, deferred their participation in the process.

Until the application was formalised by UNESCO on 30 March 2012, a National Monitoring Committee was created within MADRP, although its appointment has not yet been formalised, composed of MADRP itself, the Ministry of Health/Health Authority, the Ministry of Economy/Tourism of Portugal, the Ministry of Culture/Secretariat for Culture, the Portuguese Foundation of Cardiology, Tavira City Council, the UNESCO National Commission, CCDR Algarve, the Regional Agricultural Board of the Algarve and "Mulheres de Vermelho".

With the transition of Government in Portugal as a result of the June 2011 election, there were structural and cabinet changes in government; however, no strategic change occurred to Portugal's involvement in the **Mediterranean Diet** application project.

In November 2011, a working session was held in Barcelona with *Fundacion Dieta Mediterranea*, where practical aspects relating to priorities and timelines were addressed, and a progress analysis was made on the status of the new application and the involvement of the teams.

Because of various mishaps, Portugal and particularly Tavira City Council had to prepare the final technical file in close cooperation with the representatives of the other countries maintaining regular contact and an intense exchange of information. At national level, in technical and diplomatic terms, an excellent synergy was achieved between Tavira City Council, the Ministry of Agriculture, the Sea and


DANUBIO 074C

Spatial Planning (MAMAOT), the UNESCO National Commission/MNE and the Portuguese Embassy at UNESCO in Paris.

The application's content was based on a new synthesis consisting of responses to a single form for the seven States, concerning their national specifics and the seven representative communities, including an overview of the **Mediterranean Diet**, the social functions and cultural practices handed down the generations, safeguarding measures and an inventory. The technical file was supported by documentary evidence regarding participation and declarations of commitment and support from the entities involved (in the case of Portugal/Tavira, there were about seventy), thematic bibliography, translations, photographs and a transnational video made in the Algarve on the basis of images provided by all the countries.

As part of the preparation process, dozens of information sessions were held about the application which sought wide participation and contributions from many public and private institutions and, especially, the community.

On 6 May 2011, a national preparatory seminar was organised in Tavira which was attended by the Minister of Agriculture, institutional leaders and specialists for the cultural, health, agricultural and tourist areas, and dozens of sector and even individual meetings were promoted, as well as field work to start gathering data for the inventory. CCDR Algarve also organised a dissemination seminar on the application in progress to raise awareness of the organisations and to exchange information.

With regard to the "Mediterranean diet", the need to explain the concepts underlying the application to the general public and, particularly, to students arose, and the "Mediterranean Diet, age-old cultural heritage" exhibition was shown at Palácio da Galeria/Tavira Municipal Museum, which opened in February 2012, accompanied by a catalogue published by Tavira City Council and including specialist texts.

The University of Algarve, which supported the application since its inception, in collaboration with other entities, promoted in 2013 a cycle of four seminars in which dozens of specialists from culture, health, nutrition, agriculture, fisheries, landscaping and other disciplines participated. The University published a book in 2014 which compiled the various communications.

Also as preparation for the approval of the application by UNESCO, the 1st Mediterranean Diet Fair was held in Tavira in September 2013, which attracted tens of thousands of people.

The final decision took place at the 8th session of UNESCO intergovernmental committee for the Safeguarding of the Intangible Cultural Heritage of Humanity, held from 2 to 7 December 2013, in Baku, Azerbaijan. The Portuguese delegation, whose mission was to defend and justify, comprised five members of the Ministry of Foreign Affairs, MAMAOT and Tavira City Council.

With 116 States in attendance, UNESCO decided unanimously and without any recommendations to approve the application on 4 December 2013, on the basis of its characteristics and qualities. This was a high moment, experienced by the Portuguese delegation with the deepest satisfaction and in tune with the whole country.

By agreement between the States and as recognition for the work developed, the Portuguese delegation was entrusted with the reading, on behalf of all, of the final statement. A new stage thus started in the safeguarding of the **Mediterranean Diet**, one with increased responsibilities and also legal implications.

To conclude, we will refer to some of the characteristics and potential which, in our view, ensure the importance of the **Mediterranean Diet**, now and in the future.

Firstly, **transnationality**, as it brings together seven States and their representative communities, geographically located in the eastern, central and western areas of the Mediterranean geocultural space. The **project's evolutionary strategy** enables and encourages future accessions and the incorporation of other culturally Mediterranean States.

In joining values and cultures of Catholic, Orthodox and Islamic traditions, it also brings closer collective identities with different social behaviours, which constitutes an **instrument for peace and rapprochement** between peoples.

**Heritage sharing and enhancement** has common goals in defending and promoting a lifestyle that includes a safeguarding plan, inventories, research, education for health and healthy lifestyles...

The **multidisciplinarity and breadth** bring together fields of knowledge from agronomy to history, from anthropology to nutrition, from sociology to tourism, and research applied to the regional economy. It goes alongside the enhancement and upgrading of terri-

tories, and greater protection of local resources, in which representative communities play a key role.

The Mediterranean diet is recognised by the medical community as an important means of **containing "civilisation-related diseases"** caused by mass consumption and sedentarism. The main foods included in the Mediterranean diet pyramid contain properties that prevent cardiovascular diseases, diabetes, cancer and obesity, among other illnesses.

It provides an opportunity for productive innovation and the experience of personalised modernity where cultural diversity is a global wealth.

UNESCO and the WHO have recognised the universal value of the Mediterranean diet, as has FAO which decreed 2014 to be the International Year of Family Farming, considering it a "sustainable diet", i.e. capable of ensuring the pressing balances between man and nature, the protection of ecosystems and genetic inheritance for its environmentally-friendly proximity agricultural practices.

A year has elapsed since UNESCO decided to inscribe the "Mediterranean Diet" as ICH of Humanity, including Portugal. This was a first, decisive step that has paved the way for all intervention possibilities by bringing awareness that resources are limited and effective solutions for complex problems are at hand.

## BIBLIOGRAPHY


BRAUDEL, Fernand (1987), *O Mediterrâneo*. O espaço e a história, Lisboa, Teorema.

CAVACO, Carminda (2001), «Paisagens rurais no concelho de Tavira: da diversidade natural e fundiária às dinâmicas sociais», exhibition catalogue *Cidade e Mundos Rurais: Tavira e as sociedades agrárias*, Museu Municipal de Tavira/Câmara Municipal de Tavira.

DIRECÇÃO-GERAL DA SAÚDE, portal www.dgs.pt

Estadísticas Sanitarias Mundiales – 2013, OMS. www.who.int

FLANDRINI, Jean-Louis e MONTANARI, Massimo (2008), *História da Alimentação*, 1st and 2nd volume, 2nd edition, Lisboa, Terramar.

INSTITUTO NACIONAL DE ESTATÍSTICA, *Balança Alimentar Portuguesa* 2008-2012.

KEYS, Ancel e Margaret (2006), *Comer Bien, Sentirse Bien – La Receta Mediterránea*, Barcelona, Fundación Dieta Mediterránea y Ministerio de Agricultura, Pesca y Alimentación.

MAIA, Maria e Manuel (coord. – 2012), *Tavira islâmica: Núcleo Islâmico: Museu Municipal de Tavira,* Tavira, Câmara Municipal/Museu Municipal.

MARCOS, Ascención (2004), Influencia de la Dieta Mediterránea en el sistema inmune, in *Dieta Mediterránea: Beneficios y Promoción*, Barcelona, Nexus Ediciones.

MARQUES, A.H. de Oliveira (1977) *História de Portugal*, Lisboa, Palas Editores.

MATTOSO, José (1992), *História de Portugal*. Dir. [...], vol. I, Lisboa, Círculo de Leitores.

OLIVEIRA, Ernesto Veiga de (1984), *Festividades Cíclicas em Portugal*, Lisboa, Dom Quixote.

QUEIROZ, Jorge (2013), Dieta Mediterrânica – Portugal e o Algarve, territórios e culturas, exhibition catalogue *Dieta Mediterrânica, Património Cultural Milenar*, Tavira, Câmara Municipal de Tavira/ Museu Municipal de Tavira.

QUEIROZ, Jorge (2014), *Dieta Mediterrânica: uma herança para a humanidade*, Lisboa, Althum.

QUEIROZ, Jorge, MANTEIGAS, Rita (coord. – 2008), Tavira Patrimónios do mar, exhibition catalogue, Tavira, Câmara Municipal de Tavira.

QUEIROZ, Jorge, SANTOS, Marta (coord. – 2010), *Cidade e mundos rurais: Tavira e as sociedades agrárias*, exhibition catalogue, Tavira, Câmara Municipal de Tavira.

RIBEIRO, Orlando (1991), *Geografia e Civilização*, Lisboa, Livros Horizonte.

RIBEIRO, Orlando (1998), *Portugal, o Mediterrâneo e o Atlântico*, Lisboa, Livraria Sá da Costa.

SARAMAGO, Alfredo, *Cozinha Algarvia*, Lisboa, Assírio & Alvim, 2001.

SARAMAGO, Alfredo, *Para uma História da Alimentação no Alentejo*, Lisboa, Assírio & Alvim, 1997.

TORRES, Cláudio (1992), O Garb-al-Andaluz, in *História de Portugal*. Dir. José Mattoso, vol. I, Lisboa, Círculo de Leitores.

VALAGÃO, Maria Manuel (2014), Identidade alimentar mediterrânica de Portugal e do Algarve in *A Dieta Mediterrânica em Portugal: Cultura, Alimentação e Saúde*, Faro, Universidade do Algarve.
VALAGÃO, Maria Manuel, exhibition catalogues from Museu Municipal de Tavira: *Dieta Mediterrânica*, Património Cultural Milenar, 2013.

# 2

# A way of life
## (...between the sky and the earth)

# Mediterranean crops and dietary systems: continuity, imagery and new challenges[1]

ISIDORO MORENO
Universidad de Sevilla

**ABSTRACT** Eating is a biological need shared by all living creatures. However, human food systems are a "total social fact" since they also involve the social and cultural dimensions. Mediterranean food systems have constituted throughout history a "model" which is receiving international recognition today, due to the quality of their components and their positive effects on health, as well as their combination and preparation methods. Now, it is precisely this "model" that is endangered because of the pressure of mercantile and neoliberal globalisation which makes its replication difficult, like so many other aspects of Mediterranean cultures. This text outlines the most relevant aggressive factors, and the possible solutions for its continuity in the light of the cultural rationale which the author calls "knowing how to live"; a rationale that goes against the globalisation of the market which currently prevails.

**KEY WORDS** Food systems, cultural heritage, Mediterranean heritage, globalisation, identity, cultural rationales.

## FOOD AS A "TOTAL SOCIAL FACT"

Eating is a biological need shared by human beings with all living creatures. Eating and drinking, like breathing, is an indispensable requirement for every individual's survival. However, we humans alone, select the foods we consider appropriate from the resources we could potentially use as food, distinguishing them from those we regard as inappropriate. Only human beings modify and prepare food to make edible that which would not be so if eaten as nature provides it: only humans cook. Similarly, only we attach importance to food and only we establish rules, precepts and taboos – which differ according to societies and social strata – on what, when, with whom, where and how to eat... Therefore, food is for human beings at once a biological, cultural and social fact, i.e. a "total social fact" to apply the category defined by Marcel Mauss a century ago.

The same is true for food and sex: preservation and sexual instincts being the two basic instincts also for humans, the responses we give them are culturally constrained, subject to rules and rituals. We can actually inhibit or repress the responses: only humans can decide to go on a hunger strike and starve to death, if we're convinced that standing for an idea is more important than preserving our own life, or risk it recklessly to save someone else's. Also, only humans can renounce certain foods that they consider as valuable, for long periods of time, and decide to only consume others on special occasions. What we eat or do not eat, how we season food, what other elements, in addition to the products we cook and eat, are part

of our dietary system, is one of the most important indicators of our collective identity.

There is an obvious parallel with human responses to the sexual instinct: who can (or cannot) be our sexual partner, how, where, when these relationships will occur, is also something that is culturally defined. The satisfaction of the sexual drive, unlike what happens with other sexual animals, is not immediate and non-selective (or not that selective). And in the same way as we invented cooking and the various food systems, for sex we invented eroticism, romantic love, pornography or chastity, all of them systems specific to our species, which are the result of the human capacity to attach importance and rules to desires and behaviours in order to give them a sense. In short, of our nature as *cultural animals*.

Focusing on food, the inclusion of mineral elements, carbohydrates, fats, proteins and vitamins in our cooking and drinks is inseparable from various factors specific to each human group's culture: eating (and drinking) is a cultural activity because it contains a number of meanings. And it is a social, not individual, activity. The family itself could largely be defined as comprising those individuals who eat together (or from the same pot). Sharing the table, with a greater or lesser degree of ritualisation, is present in various forms in all societies. And the rules on eating and drinking usually reflect social distance, hierarchies, and how relationships work between genders and age groups. Sometimes, however, as regards to food products and codes as well, there are cases of symbolic denial or exclusion from social categories.

## THE MEDITERRANEAN FOOD SYSTEMS

Firstly, we should ask ourselves what kind of entity the Mediterranean is. Is it or was it a cultural, political and religious entity or is it rather an invention of *Mediterraneanists*? The debate could be quite long but, to be brief, we would have to answer that it is a civilisation model that combines a diversity of cultures which were or are characteristic of peoples which we situate within given space and time coordinates. The exception is the Roman Empire period, and even so with some specificities, which never represented a political unity. And even less a religious unity. In these and other dimensions, various dualities often predominated: political, religious and economic, while not always giving rise to a north/south dichotomy like today, but rather an east/south one in certain periods. It is also true that, in the imagination of 18th and 19th century European travellers and most 20th century tourists, as well as for some historians and anthropologists, the Mediterranean is a cultural area or a reality on its way to being one, by contrast with Europe defined as modern and *developed*.

As far as we are concerned, we think that, without minimising the most obvious and perceptible dimensions (political, religious, economic, language dimensions), it is necessary to give special attention to what we call "lifestyles". Indeed, it is here that we find similarities that prevail over differences. If we don't confine ourselves to the most visible, power-related aspects, we will note a continuity of cultural structures over time, particularly with regard to day to day ways of living. To mention just one (since we cannot elaborate

extensively in this analysis), let us refer to the value of highly personalised, convivial and close social relationships, which are simultaneously the result and the expression of the predominance of the urban dimension, the concentrated settlement in cities, towns and villages, as opposed to the scattered settlement typical of other civilisations. This translates into the intensive use of both open and closed public spaces: the *agora*, the plazas, the streets, the markets, the bathhouses, the taverns, the community tanks, the performance venues, the casinos and association centres, the venues for festivities and rituals, both within and outside the urban universe.

The food dimension is one of the most important of a "lifestyle". In the Mediterranean, we can witness as many food systems as there are cultures and societies around them, albeit with common structural traits that embody what we could call "the Mediterranean food model", which is after all the result of two main components. On the one hand, an ecosystem formed by a more or less similar climate in the different countries, characterised by marked seasons (with great rainfall and temperature differences during the annual cycle) and the closeness to mountains or deserts, which delineate three well-defined areas with different but complementary features: the coastal area, the area of major river plains and valleys and the area of hills and mountains. Areas which provide complementary resources: fishing – seafood/extensive or irrigated farming – barnyard husbandry/terrace farming – extensive livestock rearing – woods – hunting – collecting. This ecosystem is influenced by the conditions and resources of territories further inland: continental, Atlantic or desert.

The other component is the high capacity for adaptation of this ecosystem to the inclusion of food-producing plants from other parts of the world. Some have been here for thousands of years, having come from the East, while others for only three or four centuries (those from America, as essential today as the others: maize, tomato, pepper, pumpkin, beans, potato) or even for a few decades (especially certain fruits).

Both generally and in the food context, we could say that the Mediterranean has never known a culture or an early social order that has quickly fractured or diversified itself. What we can aptly term as Mediterranean civilisation is the result of interaction and exchanges over thousands of years between peoples with different, specific cultures; exchanges facilitated by trade, migration, the presence of minorities and also brought about by conflict and war. Whether peaceful or violent, contacts have been an historical constant which caused the mixing of populations and produced cultural syntheses and analogies. One-sided views which stress only one putative harmony or a permanent conflict lack in any validity. As Ferdinand Braudel stated in his most famous work (Braudel, 1966), the Mediterranean context is "a set of interconnected routes": a continuous flow of people, communities, goods, ideas and, at times, armies.

Anthropologist John Davis also wrote: "It is obvious that the Mediterranean shows a range of social typologies and in no sense is it a homogeneous cultural space. Nevertheless, it made history because, in a sense, it is a unity: over the millennia it has proved

impossible for Mediterranean people to ignore each other. They have conquered, colonised, converted; they have traded, administered, intermarried--the contacts are perpetual and inescapable" (Davis, 1983)[2].

## STRUCTURAL FACTORS IN MEDITERRANEAN FOOD SYSTEMS: THE MODEL COMPONENTS[3]

Within the diversity of specific food systems, we can detect strong structural continuities which justify the use of the expression "Mediterranean food model".

### CONTINUITIES IN PRODUCTS FROM THE THREE COMPLEMENTARY ECOLOGICAL SUBSYSTEMS MENTIONED

- Cereals: mostly wheat but also rye and rice. Much more recently, maize. These are the basis of the abundance and diversity of breads, pasta, porridges, rusks...
- Legumes: chick peas, lentils, peas, lupin.
- Horticultural products: lettuce, chicory, spinach, chard, cabbage, asparagus, aubergines, onions, garlic, aromatic herbs. And also tomato, pepper, pumpkin, potato...
- Various fresh fruits, both in winter and summer, and a significant consumption of dried fruits (almonds, walnuts, chestnuts, acorns) and temporate fruits (olives), as well as harvested products (mushrooms, asparagus, thistles, snails, birds).
- Dairy produce, mainly goat's and sheep's cheeses (not so much cow's cheese), both fresh and old and fermented, yoghurt and/or curds; milk, in smaller quantities.

- Olive oil and other vegetable fats, although in many areas pork (lard) and mutton fat is used. The main contrast is seen between fats, either of plant or animal origin, and butter which was completely absent until very recently.
- Wine, as a fundamental part of the meal, due to the abundance of vines almost everywhere. Also distilled liqueurs and, in specific regions, other non-wine beverages.
- Fish, mainly oily fish, abundantly consumed in coastal areas and the hinterland (often cooked in bouillabaisses), although this does not happened inland where it was scarce and replaced with salted cod. There is a major difference in fish consumption between countries and regions.
- Meat, as a non-regular food: mutton, kid, pork and, to a lesser degree, veal, and, even less, beef. Full use of pork, mainly for various sausages and fats (pork fat, butter). Widespread use of minced meat (meat balls, croquettes, kebabs) and carcasses and giblets. Also vegetables stuffed with mince meat. Seasonal hunting or poaching was, in many areas, a proportionally importance source of meat.

### CONTINUITIES IN THE PROCESSING AND METHODS OF COMBINATION OF PRODUCTS

- Wide consumption of fresh, seasonal produce, creating great differences between winter and summer dishes. Seasonality greatly enhances young crops: new wine, early mushrooms, early snails, early chestnuts, early game, early fruit...
- Storage of staple foods to make them last by using various conservation techniques that transform permanently consumed foods into non-perishable foods: flour, pulses, olive oil, wine, sausages, salted and dried bacon, pork fat, brine, salted or smoked fish (mostly cod), cured cheeses, fruit jams, vegetable compotes, dried peppers and tomatoes, meats preserved in lard, cheeses and other products in olive oil...
- Priority is given to vegetables. Cereals are present in all meals (bread, pasta, rice, couscous). Strong presence of greens, vegetables and legumes as well, and widespread use of olive oil, vinegar, salt, garlic and onions. Unlike other diets, raw foods are prominent in the Mediterranean diet: salads, seasonings, gazpachos, fruit, dried fruit. And meals are usually accompanied with wine. Vegetables, like in other food systems, are not complementary to or accompaniments of other main products, but rather the central component of the most important dishes. The "main course" (the family "common pot") is mainly composed of vegetables: legumes, pasta, rice, couscous, potatoes, runner beans or vegetable garden produce (in this case, in the form of *pistos*, *alboronias*, gazpachos, salads, *picadillos*...) with pieces of meat, bacon, fish, egg or cheese added. This is the basis of stews, soups and casseroles; also pasta and couscous (which in Italy are almost considered to be "the food" par excellence, similarly to boiled meats in many parts of the Iberian Peninsula.

- An abundance of hot and cold soups, in which cereals are also used. In the same way, these combine with other products: bread with olive oil, garlic, tomato, *migas*, gazpachos...
- The use of acidic products is also striking: vinegar, lemon and bitter oranges, while food texture is also important. More expressive use of aromatic herbs (bay leaf, parsley, basil, mint, spearmint, fennel, dill, coriander, saffron...) than spices.
- Fried food is also important (in olive oil or, more recently, in sunflower oil or oil from other plants). The intensive use (albeit in some regions more than others) of cooking oil converted the "culinary triangle" of Lévi-Strauss (1965) into a tetrahedron. Together with air, required for the preparation of roast or dry smoked dishes, and water, used in the different cooking methods, a third element is introduced: vegetable fat, mainly in the form of olive oil, to fry food. This is one of the most significant contributions of the Mediterranean to the world's food systems. As opposed to fried foods, roast dishes, mainly kid, mutton or pork, are designed for special occasions, like parties and celebrations, and are usually done in the open air by men, while everyday kitchen preparations are associated with women.

## THE DIETARY IMPORTANCE OF THE MEDITERRANEAN MODEL

Both the products comprised in the Mediterranean food systems and their forms of consumption have once again been brought into value, mainly in the wake of the studies conducted in the 1950s by the North American physiologist and nutritionist Ancel Keys who correlated coronary diseases, blood cholesterol levels and lifestyles in seven countries: Greece, Italy, Yugoslavia, The Netherlands, the United States and Japan. The "Mediterranean model" proved to be more balanced and less responsible for these diseases, because of its lower content of fats, animal proteins and calories than the food models of *developed* industrial societies. This is due to the fact that olive oil, almonds and walnuts reduce the risk of cardiovascular diseases (infarcts and strokes), while wine, an antioxidant, has proved, if drunk in moderation, to contribute to improved cardiovascular health. A low meat consumption and a widespread consumption of greens, vegetables and fruit ensure the necessary amounts of fibres, vitamins and minerals, while legumes provide vegetable proteins which are healthier than animal ones. A low meat consumption and a widespread consumption of oily fish, mainly in coastal areas, is another positive feature of our model (or, at least, of what we could term the traditional Mediterranean model).

## SOCIAL DIMENSIONS AND RITUALS OF THE MEDITERRANEAN FOOD MODEL

As we mentioned earlier, in any human society, eating is not just a biological need (like fuelling is for a car), but also a context in which social relationships are reflected, replicated or established and a number of meanings conveyed. Therefore, what food is consumed, who prepares it, when and under what conditions, which people eat together, in what order courses should be served, what behaviours are thought suitable for the table..., all this reflects rules derived from the social structure that convey messages far surpassing the simple goal of feeding.

We've already mentioned that the family itself could be defined as the group that eats the same food at the table, shares the same *pot* (or shares the same larder or the same fridge).

And at the table – who should be present, the place of each diner, who serves the food and in what order – vertical and horizontal relationships are captured and strengthened. Whether it is a household group or a wider community. And behavioural changes also reflect changes at the social level. In this way, for example, in most families, it is the mother who serves the food, first to the father, then the other men, then the women and lastly the children. Obviously, albeit in decline today, though not completely disappeared, this is (or was) the traditional custom, a rule that reflects and reinforces the pecking order within the family structure. And in working class families, until a few decades ago, the best food or the most nourishing products were for the father, not the children. The famous popular saying

in Andalusia, "*cuando seas padre comerás huevos*" [*when you're a father, you'll eat eggs*] evokes those times when an egg was a valuable food that was reserved, if a recipient for it had to be chosen, for those who needed to preserve their health to be able to provide for the family, even if precariously. Today, by contrast, we usually offer the best foods to children: the birth rate has fallen dramatically and the living conditions for the working classes have improved (at least up to the current crisis).

The easing of other rules, like the requirement for all family members to sit at the table at the same time, without accepting that anyone (except the father) can be late, also reflects more widespread changes: different working hours, greater personal independence, the softening of the power of the *pater familiae*... In any case, it is still desirable for all the family to gather at the table at least once per day or per week, or for special celebrations whose highlight is to eat and drink together.

Eating and drinking together creates a sense of community, or strengthens the existing one: it activates the idea of belonging to a collective identity, whether it be family, friendship or established around common interests. It encourages cohesion, builds in the imagination mutual ties of loyalty, companionship... without thereby nullifying the distances or the relationship of hierarchies except in very specific and carefully ritualised situations. Mediterranean societies are especially given to commensalism, whether it is highly formalised and ritualised, or in informal contexts. Public and semi-public places for drinking and sometimes eating have existed in Mediterranean cities

for over 2000 years. Some taverns were conserved in Pompeii and from then until today, inns, hostelries, local stores, and later cafés, bars and restaurants have been places of social relationships, of sociability. The *culture of wine* is very important in our countries, not only for drinking but also for *knowing how to drink*, as an accompaniment to meals or on other occasions without food or in small amounts (the famous Andalusian 'tapas' or 'pinchos' in other areas). An important feature of this culture is that the goal is not to get drunk, certainly not alone, but to share with others, through drink and conversation, one's concerns, emotions or confidences, on important as much as trivial issues, aimed primarily at the practice of sociability (Moreno, 2005a).

In many areas of the Mediterranean, there are associations of men, formal or otherwise, are formed or fostered around food and drink (clubs, brotherhoods, groups of friends...). Food and drink are also key elements in every rite of passage: both traditional with religious connotations (birth, baptism, weddings, funerals) and those that have come to be understood as rites of passage, with or without religious overtones: first communions, birthdays, graduation, retirement...

It is this activation of an egalitarian concept, a shared identity, or at least a non-belligerent relationship, which leads to major economic or political issues being resolved or brought to a head around the table, between glasses of wine or at a meal. Hence the current importance of so-called working (business) lunches and dinners. It is also why today, as has been the case for millennia, when a senior

official or a representative of another State visits a country, a formal meal is organised: any potential hostility, or at least the ever-present distrust, softens symbolically with food , drink and conversation. The main point, obviously, does not lie in the food that is eaten – even though efforts are made to impress the guest – but in the eating and drinking together.

Sharing the table is also central to the religious context (Schmidt-Leukel, 2002). This is not just for the definition of when and around which meals we should gather together to break the Ramadan fast or to celebrate Christmas or to take part in a pilgrimage, for example, but for the meaning of the foods themselves in their sacred dimension. Thus, in Catholicism, we have the symbolic meaning of salt and olive oil in certain rites, the use of ears of wheat, bunches of grapes, fruit, rosemary and other foodstuffs as offerings to images of saints or as ornaments for altars or floats in processions and, above all, the belief that two of the core foods in the Mediterranean food model, bread and wine, are converted, through transubstantiation, into the body and blood of Christ, to be consumed by the believers as they share communion, a true *theofagy* (Moreno, 2013a).

As we can see, there are numerous ritual and symbolic aspects in the food system, as there are also ritual meals: on certain dates, with certain foods which are not used in day to day life or on other occasions, and for certain diners who only eat together precisely at such times.

## THE MEDITERRANEAN FOOD MODEL IN A GLOBALISED MARKET: THE BARRIERS TO ITS CONTINUITY

It is exactly at the present time, as the excellence of the Mediterranean diet is acknowledged worldwide, that our food model is at risk of becoming an endangered heritage of Humanity and, if not facing extinction, at least serious deterioration. This is the result of the strong integration of Mediterranean societies in the mercantile globalisation.

So as to avoid any misconceptions, let us recall that the current globalisation – which consists of a new factor in the implementation and expanding chain of the liberal capitalist system through the ideology of *progress*, followed by *modernisation*, then *development* and now *globalisation* – is the attempt to impose a single model, founded in the logic of the "free", unregulated market, on all peoples of the world and all dimensions of life (not just the economic, but also the social, political and cultural dimension). This design, supported by the new technologies and centralised on finance capital, has an enormous affect on the Mediterranean cultures in every respect, including food.

Although this is not the place to elaborate on this topic, we should stress, even if in a simplistic way, the main factors at play in the context of food today:

- The existence of large international business groups.
- The industrialisation of agricultural and cattle breeding holdings: soilless, greenhouse farming, meat production industries in which animals are all but immobilised and artificially fattened...
- The ease of long distance food transportation: fruit and vegetable market globalisation with a view to overcoming product seasonality.
- The serious impoverishment of biodiversity as a result of the use of biogenetics to obtain "standardised" and transgenic products.
- The specialisation of wide territories in monocultures for export to the detriment of both forests and other natural spaces and of short-medium distance production for local consumption.
- The dominant role of the major distribution chains and the proliferation of hypermarkets owned by them.
- The highly publicised international brands and the mainstreaming of own-brand labels (brands with silent origin).

All these factors are seriously impairing the Mediterranean lifestyle, including our food model, which is being invaded by products, practices and values specific to societies that call themselves more *developed* and have a less balanced and more unhealthy food model. This fact is generating increased pathologies, among other consequences, that were formerly less prevalent among us thanks to the quality of our diet.

The advance of these systems, alien to our cultural traditions, has been enabled not only by the economic power of large businesses keen on expanding their markets, but also by the dissemination of

ideas, at times imbued with false scientific claims, designed to disqualify elements that are central to the Mediterranean model. From this perspective, we should firstly mention the campaigns to discredit products, methods of cooking and dietary rules that have been presented as signs of lack of modernity, backwardness, rurality and even as dangerous to the health. These include:

- The alleged negative effects of bread and other cereal products, understood, besides, as symptoms of poverty, whose consumption leads to obesity, when in fact the rate of obesity in Mediterranean societies is actually far lower that that in Anglo-Saxon societies.
- The alleged negative effects of olive oil (which have been proven to be completely false) and wine, even when consumed in moderation. The interest in widening the market to include other fats and other alcoholic beverages is at the base of such slanderous claims.
- The discredit of legumes and, in general, their preparation, so central to the Mediterranean model, associated with the overrating of meat, regardless of type. It should be recalled that meat was traditionally the symbol of high social status, as it was consumed as the main course by the majority of the population only on special occasions.
- The conversion of vegetables and greens into a mere accompaniment or garnish, instead of the central components of the main course, as was the rule.
- The consumption of perishable produce out of season, sometimes from places thousands of miles away: unseasonal vegetables, fruits that are in season elsewhere, etc.

- The near disappearance of the various types of "home-made" and short-term storage conserves and their replacement with precooked foods and dishes.
- The lower consumption of fresh fruit and home-made desserts as a result of the mainstreaming of industrial desserts and pastries.
- The lower consumption of wine, particularly new and locally produced, as well as traditional spirits, which have been replaced by other imported alcoholic beverages.
- The disregard for soft drinks produced with local products (*horchatas*, sangrias and other drinks) and the mainstreaming of those produced by major transnational companies with a high sugar and additive content.
- The growing difficulty in preparing and consuming meals according to traditional principles because of working rhythms and timetables which leave little time not only for cooking, but also for eating, a fact that is at the basis of the proliferation of fast-food and various types of junk food prepared with harmful fats.

The combination of these factors is causing, in Mediterranean societies, an increase in coronary and other diseases, including a dramatic rise in obesity and excess weight. Children and young people are the most vulnerable age groups to these effects.

We can see, similarly to other contexts, that with regard to food Mediterranean societies are at once idealised and discredited by those who consider themselves as belonging to developed countries. A certain exoticism is still sought after for the consumption of (real or invented) differences by mass tourism, largely controlled

by tourist operators, attracted by what is (or is put forward to them as being) singular and distinctive, while insisting that we should be like them and accept their standards and lifestyle to *develop*. With regard to food, we are pressured to reject our model and consume what they produce (in their own countries or those countries to which they have entrusted the role of global producers) with the same standards which they – endless paradox! – dream of escaping from.

This means essentially that they persuade us to underestimate our own identity and accept our inferiority. The change of our food system is an important part of this process. Could it just be an accident that, in the current crisis in the Mediterranean countries – Portugal, Italy, Greece and Spain – we are dubbed as PIGS? Is it just a meaningless acronym?

It is no negligible paradox that, when the Mediterranean diet is recognised as Intangible Heritage of Humanity, the Mediterranean people are deprived of it and pressured to let go of it. If this process intensifies, it won't be long before major companies start to use it as a banner to confer prestige on some of their products. It would be an operation that wouldn't be far removed from the policies of transnational pharmaceutical companies as they boast of products and know-how from peoples labelled as "primitive" or "underdeveloped".

## THE MEDITERRANEAN FOOD MODEL, *FOOD SOVEREIGNTY* AND "SAVOIR-VIVRE"

I believe that the current recognition of the Mediterranean diet as Cultural Heritage of Humanity should be used to proclaim not only the diet but our entire food model in its various dimensions and variants. A model that is inseparable from a lifestyle, a civilisation which typifies the Mediterranean peoples. This will only be possible if we move away from the logic of globalisation and are able to stand up to globalising interests and ideology, contributing to relocate and become aware of our identity based on non-mercantile logics (Moreno, 1999, 2002a, 2002b, 2002c, 2003, 2004, 2005b, 2005c, 2012).

Obviously, this implies that we stand up to the interests of the large business groups and finance capital, as well as to the professionals of politics who are accomplices and managers of the former. We cannot develop this idea further, which I regard as fundamental, but we should at least point out that any serious position in defence of our food model includes the claim of our *food sovereignty*: the right of the people to ensure their diet, producing what they need to cover their culturally established requirements and aspirations, without any of these being decided by the major economic and political world players. We must fight to make meeting domestic demand before external demand the main goal of food production. To produce for people, rather than for the markets. And strengthen the Mediterranean methods of consumption, our eating and drinking patterns, and sociability around food and drink.

Without fighting for food sovereignty, it will not be possible to preserve our environmental heritage: soil, climate, ecosystem, biodiversity, or our cultural heritage: knowledge, techniques, cooking methods, habits related to food and table sharing. Food sovereignty is a dimension of sovereignty that the people should reconquer. Although this is not achieved overnight, it's the direction we should be taking by fostering practices associated with it. For example, bringing consumers and producers closer together through direct relationships or through the setting-up of chains based on close relationships: consumer cooperatives, associations of producers and consumers, local and regional markets... so as to support the development of a local, green, rural, seasonal agriculture... which would, in turn, facilitate a living rural world.

The activation of agri-food productions, such as those in Mediterranean food systems, implies the implementation of collective organisation strategies at local and regional level and the enhancement of local resources and their qualities as opposed to the model that is being imposed on us. This is about fostering differentiation, quality and local added value. When we talk about the excellence of the Mediterranean model while in practice we depart from it, it's no more than empty talk (out of context or abstract). We should put into practice some of its systems and stand up to those which, although praising us, try to prevent us from adopting them and urge us to abandon them. And we should always bear in mind that it's not just about a diet, a sum or a combination of elements, but a lifestyle and a culture.

Today, in many parts of the world, people increasingly claim cultural logics that differ from those of the so-called globalised capitalism development, with its sacred values of productivity and individualistic competitiveness aimed at obtaining maximum financial profit. As opposed to these values and aims, these logics seek harmony with nature, friendship between the various peoples and a fairer and more equal society for each of them. The Andean peoples, for example, insist on the concept of *sumak kawsay* or "good living", and their collective view of social life and respect for nature counters extractive and developmental capitalism, grounded on individualism and the maximum possible profit (Moreno, 2013b). I think that the Mediterranean peoples, bearing in mind our ancient and crossbred identities and cultures, should also claim their Mediterranean "savoir vivre", a lifestyle primarily focused on the human and on human relationships, not on utilitarianism, competition and making life a market. Our food model, expressed in various systems, is a very important part of this "savoir vivre" and is one of our most significant identity marks. It belongs to our cultural heritage, our collective experience, and is a relevant contribution to the common heritage of Humanity. But it's also today an endangered heritage. Let us not reject this mark of identity that is a source of health and of both material and immaterial goods. And act in a consistent way.

## NOTES

[1] Translation into English of the Portuguese version, translated by Sandra Boto, of the text previously published in Romano, A. (Ed.) (2014), *A dieta mediterrânica em Portugal: cultura, alimentação e saúde*, pp. 104-121, ed. Universidade do Algarve.

[2] This interesting work is, however, a good example of colonialism applied to knowledge: the author states, without a hint of guilt, that he only considered existing literature in English, so the vast majority of analyses on the Mediterranean by the different social sciences of the countries that form its basin is ignored. The prevalent Northern European colonialist perspective of Southern Europe and the entire Mediterranean is very clear here.

[3] This section draws mainly from articles by Igor de Garine, Isabel González Turmo and Salvatorre D'Onofrio included in the collection *Antropología de la alimentación Ensayos sobre la dieta mediterránea*. Seville, 1993. The structure of the chapter is original, on this basis and with reference to other authors.

## BIBLIOGRAPHICAL REFERENCES


BRAUDEL, F. (1966), *La Méditerranée et le monde méditerranéen à l'époque de Philippe II.* Paris, Armand Colin. Cited in the Spanish edition (1988), Madrid, Espasa Calpe, p. 88.

DAVIS, J. (1983) [1977], *Antropología del Mediterráneo.* Barcelona, Anagrama, pp. 251-252.

D'ONOFRIO*, S.* (1993), A la mesa con los muertos, in I. *GONZÁLEZ TURMO E P. ROMERO DE SOLÍS* (eds.) *Antropología de la alimentación. Ensayos sobre la dieta mediterránea,* pp. 147-277. Seville, Consejería de Cultura y Medio Ambiente de la Junta de Andalucía-Fundación Machado.

GARINE, I. De (1993), La dieta mediterránea en el conjunto de los sistema alimentarios, in I. GONZÁLEZ TURMO E P. ROMERO DE SOLÍS (eds.) *Antropología de la alimentación. Ensayos sobre la dieta mediterránea,* pp. 9-27. Seville, Consejería de Cultura y Medio Ambiente de la Junta de Andalucía-Fundación Machado.

GONZÁLEZ TURMO, I. (1993), "El Mediterráneo: dieta y estilos de vida", in I. GONZÁLEZ TURNO E P. ROMERO DE SOLÍS (eds.) *Antropología de la alimentación. Ensayos sobre la dieta mediterránea,* pp. 29-49. Seville, Consejería de Cultura y Medio Ambiente de la Junta de Andalucía-Fundación Machado.

LÉVI-STRAUSS, C. (1965), *Le triangle culinaire. L'arc*, no. 26. (also in *Mitológicas III. El origen de las maneras de la mesa.* México, Siglo XXI, 1970, pp. 410-432).

MORENO, I. (1999), Globalización, Identidades colectivas y Antropología, in JOAQUÍN S. RODRÍGUEZ CAMPOS (coord.) *Las identidades y las tensiones culturales de la modernidad. VIII Congreso de Antropología,* pp. 95-137. Santiago de Compostela, FAAEE-Asociación Galega de Antropoloxia.

MORENO, I. (2002a), *La globalización y Andalucía. Entre el mercado y la identidad.* Seville, Mergablum.

MORENO, I. (2002b) *Globalización y cultura*, in *Jornadas Internacionales sobre Globalización*, pp. 20-42. Bogotá, Universidad Nacional de Colombia.

MORENO, I. (2002c), Globalización y localización: las dinámicas de nuestro tiempo, in LUIS ÁLVAREZ MUNÁRRIZ E FINA ANTÓN HURTADO (eds.) *Identidad y pluriculturalidad en un mundo globalizado*, pp. 19-43. Murcia, Universidad Internacional de Mar-Ed. Godoy.

MORENO, I. (2003), La trinidad sagrada de nuestro tiempo: mercado, estado y religión. *Revista Española de Antropología Americana* no. 33, pp. 13-26.

MORENO, I. (2004), Globalización, mercado, cultura e identidad, in PAZ MORENO FELIU (comp.) *Entre las Gracias y el Molino Satánico. Lecturas de antropología económica*, pp. 485-514. Madrid, UNED.

MORENO, I. (2005a), Identidades socioculturales y culturas del trabajo en torno al vino en Anadlucía, in J. MARCOS ARÉVALO (ed.) *Las culturas del vino. Del cultivo y la producción a la sociabilidad en el beber,* pp. 69-102. Seville, Signatura Editorial.

MORENO, I. (2005b), Globalización y cultura, IN J. ROCHE CÁRCEL Y M. OLIVER NARBONA (eds.) *Cultura y globalización. Entre el conflicto y el diálogo,* pp. 65-88. Alicante, Publicaciones Universidad de Alicante.

MORENO, I. (2005c), Fundamentalismos globalizadores versus diversidad cultura, in JUAN AGUDO TORRICO (coord.) *Culturas, poder y mercado. X Congreso de Antropología,* pp. 37-58. Seville, Fundación El Monte-FAAEE-ASANA.

MORENO, I. (2012), Crisis de los pilares de la modernidad, globalización mercantilista y activación identitaria. Los papeles posibles de la Antropología hoy, in ENZO SEGRE E ISIDORO MORENO (coord.) *Fronteras de iluminismo,* pp. 49-76. Mexico DF, UAM-Juan Pablos Ed.

MORENO, I. (2013a), La comida (y bebida) como ritual: sacralidad, comensalismo e identidades colectivas, in LUIGI LOMBARDI SATRIANI (ed.) *Cibo e Sacro. Culture a confronto.* Rome, Armando Editore.

MORENO, I. (2013b), Notas para una reflexión sobre el 'sumak kawsay' y otras lógicas alternativas en América Indoafrolatina, in ENZO SEGRE MALAGOLI E SIMONA SCOTTI (coord.) *Immaginari del cambiamento in America Latina. Religioni, culture, dinamiche económico-sociali*, pp. 153-158. Florence, Mauro Pagliai Editore.

SCMIDT-LEUKEL, P. (2002) *Las religiones y la comida*. Barcelona, Ariel.

# Between the sky and the earth...
## The stars and agrarian, food and festive cycles[1]

CATARINA OLIVEIRA
Centro de Investigação e Informação do Património
de Cacela – Câmara Municipal de Vila Real de Santo António

**ABSTRACT** Shepherds, farmers and fishermen would observe the stars looking for guidance on earth and at sea, to know the time, predict the weather and choose the best times for sowing, harvesting and fishing... There are still popular traditions linked to lunar determinism in the growth of vegetation, meteorology, tides or childbirth. Man has also derived time cycles from the sky, organised calendars and celebrated feast days marked by the equinoxes and the solstices.

In order to understand the relationship between the stars and agrarian, food and festive cycles, an approach was made via archaeoastronomy and ethnoastronomy – interdisciplinary fields that seek to understand how societies have perceived and assimilated their knowledge about the skies in their daily lives and cosmovision.

**KEYWORDS** Stars, agrarian, food and festive cycles, popular meteorology.

Shepherds, farmers and fishermen recognised the stars and constellations in the sky by the name given to them by their ancestors: *Big Dipper, Morning Star or Shepherd's Star, The Crook, The Three Marys, St. Peter's Chair* or *North Star*. Shepherds, farmers and fishermen would observe the stars looking for guidance on earth and at sea, to know the time (for example they would start work when the "Big Dipper" or the "Light Bringer" appeared in the sky), predict the weather and choose the best times for sowing, reaping and fishing... Popular traditions still exist linked to lunar determinism in the growth of vegetation, meteorology, tides and births. Man has also derived time cycles from the sky, organised calendars, and celebrated feast days, such as Christmas and Midsummer, marked by the equinoxes and the solstices.

This ancestral knowledge and the practices linked to nature and the universe, in this case to the sky, the stars and their influence on natural cycles, as well as festive events marking a ritual calendar governed by the stars, are recognised as domains of our Intangible Cultural Heritage, of which States and communities are today more aware, as expressed by UNESCO in the Convention for the Safeguarding of the Intangible Cultural Heritage of Humanity, Paris, 2003.

Interest in the relationship between man and the sky and the stars, however, is much older and documented for Portugal on the basis of ethnographic records mainly compiled from the mid-19$^{th}$ century. It can be understood along two lines: useful daily knowledge (guidance, telling the time, predicting the weather, best times for farming activities, etc.); and ritual beliefs and practices expressed in legends, traditions, superstitions and the festive calendar.

The Mediterranean Diet, in its multiple strengths, is revealing and conveys deep knowledge about the natural cycles and the resources offered by the environment (water, soil, plants, animals) to make the most of them for the communities' survival. From the production and harvesting of food to its conservation, processing, preparation and tasting as routine or on festive occasions, the celestial bodies have always played, and still play, a key role. In order to understand the relationship between the stars and agrarian, food and festive cycles, an approach was made via archaeoastronomy and ethnoastronomy – interdisciplinary fields that seek to understand how societies have perceived and assimilated their knowledge about the skies in their daily lives and view of the world.

## THE SKY IN THE DAILY LIFE AND WORLDVIEW OF PRE-HISTORIC COMMUNITIES

From its earliest days, man looked for order in the apparent chaos of the night sky, accumulating knowledge essential to his survival. Migration over land and sea required guidance from the sky; farming needed natural markers of the passage of time, the seasons, to determine sowing and harvesting times; and religious celebrations required phenomena to be interpreted and dates to be set for asking for the favour of the Gods (Almeida, s.d.).

The perception of birth/death/rebirth cycles, observable in the stars, in nature (especially in vegetation) and in man himself, was behind the first magic and symbolic systems, based on a cyclical concept of time – the "eternal return". While, for the hunter-gatherers of the Palaeolithic Age, the Moon was the great measure of time, mark-

ing the cosmic sacredness and organising activities (hunting forays on full moon nights, availability of food resources in the oceans and rivers depending on the tides, the crossing of rivers, the gestation of females...), with sedentarisation the Sun became more instrumental for farmers' and shepherds' calendars. It is no longer the lunar month, but the succession of the seasons, marked by the equinoxes and the solstices that, throughout the year, guides the cycle of sowing and harvesting and the availability of grassland for animals. The religion of the early farmers and shepherds associated with the great lunar, vegetal mother goddess the Sun as her spouse or son, identified with the active, creative and fecundating principle.

The observation of the regular movement of the stars on the horizon – the lunar and solar cycle, the equinoxes and solstices, provided by sedentarisation – were at the origin of the first calendars that governed human activities and the organisation of the ritual calendar. However, for man, it was not enough to merely perceive the close relationship between the movement of the stars and the regeneration of nature, and he actively intervened with ritual devices in order to keep the order and ensure eternal return and regeneration. This is the imposition of cultural schemes on the order of nature for harmonisation between human activities and the natural rhythms.

The megalithic monuments built by the early communities of farmers and shepherds, true sacred architectural constructions relating relevant points on the landscape and astral directions[2], are the materialisation of the knowledge accumulated by the early communities of farmers and shepherds about the movement of the stars. The equinoxes and solstices, as points of transition and change,

**FIGURE 1** Megalithic gravesite of Santa Rita, Cacela, 3rd millennium BC.

structured the ritual calendar and were marked in the megaliths with cyclic feasts linked to the renewal of nature and the cosmos with a view to maintaining the life-death-rebirth cycle – *calendar rituals* – with the ancestors, who are worshipped in funereal monuments (Figure 1), and became mediators in maintaining this order (Oliveira and Da Silva, 2010).

In pre-history, a first sediment of the inherited conglomerate materialises – the religious phenomenon[3] – in which we find astral cults and solstice and equinox festivities that have lasted to this day, as part of the Christian liturgy and in other ritual forms.

## THE PERSISTENCE OF STAR WORSHIPPING IN CHRISTIANITY

The importance of the stars within daily beliefs and practices has survived to this day. In the late Roman Empire, when Christianity became the official religion, pre-Roman cults and traditions persisted for a long time in rural areas. The successive prohibitions by the councils condemning pagan superstitions, dating from the early Middle Ages, are proof of the resistance encountered by the new official religion and a testimony to the persistence of star cults. In addition to the prohibitions, the Church also integrated and assimilated sacred places and traditions which are still manifest today in popular religiosity. Historical sources from the Mediaeval and Modern Ages attest to the successive survival of star-related beliefs and practices, helping to understand lines of continuity.

In the 6th century, Gallaecia was the setting for many natural cults. Astral cults were particularly condemned at the First and Second Councils of Braga. The cult of the Sun, the Moon and the

Stars is documented in various passages. Canon 72 of the Second Council of Braga (held in 572 under Martin of Braga) declares that it is unlawful "*to follow pagan traditions, worship and heed the natural elements, the course of the moon and the stars or the misleading errancy of the zodiac signs when it comes to building a house or harvesting, planting trees or celebrating a marriage*" (Nascimento, 2002: 326). Two centuries on, in 786, the Beatus of Liébana, in Asturias, continued and broadened the same list of superstitions, condemning: "*heeding the Moon and its days, as men do for sowing or taming animals, to punish children, to plant trees, to start a work, to make a transfer, to set off on their way*" (Nascimento, 2002: 327).

In the Porto Constitutions of 1687, a penalty is also imposed on those "*who divine secret things and future events, even if a judgement is made, and create figures from the movements of the Sun, the Moon and the stars or any other things, except if they are only those that depend from movement alone and the influence of the sky, the force of the elements and the efficiency of natural things, such as good or bad weather for sowing, fruit, navigation, health, disease and other similar effects* (...)" (Porto, 1687, v, 3, 1.); "*Praying to the Moon, the stars, making pleas to the saints with certain ceremonies for such purposes, even if good, believing they will be infallible*." Porto, 1687, v, 3,1. (Synodal Constitutions of the Porto Diocese of 1687).

## THE STARS IN THE AGRARIAN AND FESTIVE CYCLE

The perception remains in Southern Portugal among farmers, shepherds and fishermen, of the influence of the regular star movement in the sky on the growing cycle observable on the earth and in the tides. This regularity is still evident in the calendars organising

subsistence activities -agrarian cycle – and the festive cycle. While the agrarian, seasonal cycle determines practices associated with production, food gathering and husbandry, the festive cycle determines rituals linked to its eating, conferring on food a symbolic dimension.

### THE AGRARIAN CYCLE
### SOWING, TILLING, HARVESTING, CUTTING. BREEDING AND SLAUGHTERING ANIMALS

"*Alongside the bread cycle, we could include the swine and olive oil cycles and, by adding the vegetable gardens and the trees, we would have a portrait of peasant life. Various aspects of the spiritual and ritual life of this population, which do not seem to be associated with their materiality, could easily be inferred from this circular description. Swine, as well as wheat, mark the annual peasant calendar. Just as the end of the harvest coincides with the Summer solstice, and Midsummer is celebrated fully as the harvest ends, the slaughter of pigs occurs around the Winter solstice, between Christmas, the New Year and Twelfth Night*" (Bastos, 1987: 172).

While the solar cycle during the year determines the farming cycle in peasant communities, the Moon governs the best times for sowing, harvesting, pruning and slaughtering...

### LUNAR DETERMINISM

It is an old belief that goes:

"*When the Moon wanes, start nothing*" or "*When the Moon wanes, you should not water, sow or start anything.*"

In 1902, Arronches Junqueiro noted:

"*The Moon has a remarkable influence on plants. Sowing, cutting, pruning, grafting, weeding, in short, all agricultural work is subject to its phases. Sowing should be done at the waning of the moon, i.e. a few days before, up to two or three days after the new moon. The cutting of wood, cane, wicker or anything meant to dry, should be done in the last quarter. Pruning and grafting in the first quarter. The full moon is for harvesting seeds, perhaps for the same reason why fishermen search for seafood at full moon.* (Junqueiro, 1902a:123).

Much of this knowledge persists in everyday life:

"*We followed the moons to plant potatoes, beans, everything, that's something that still exists today. Sowing is always good in the first quarter. In the last quarter it's no good."* (Francisco Gonçalves, n. 1950).

However, this creative action of the Moon on plants also covers animals with the same vigour.

"*The Moon dominates fishing, hunting, breeding, etc. The peasant woman, as she lays down her chicken, always bears in mind that they hatch at the new or the full moon because she believes that the chicks born in the last quarter are weak, stunted and hardly survive after a few days. It is the Moon that determines the mating season for animals. (...) It is said that fish and game are fatter at full moon*." (Junqueiro, 1902a:123).


13

Leite Vasconcelos notes particular aspects in the Alentejo and the Algarve:

> *"To slaughter the pig, one waits for the New Moon. The interlunar period should be over. The slaughter should take place between the New Moon and the first quarter so the meat grows in the pot. If the slaughter is done in the last quarter, the meat, thin as it is, stays thin. In the first quarter, on the contrary, it gets thicker."* (Mexilhoeira Grande and Elvas) (Vasconcelos, 1980: 402).

The Moon's influence on the tides restricts the best times for catching shellfish, as noted in the early 20th century:

> *"Shellfish fill the low tide with the Moon and it is said that they are only fat and full at full moon."* (Junqueiro, 1902a:123).

Today, it is said:

> *"Spring tides, at new moon, are good for harvesting shellfish. Because they are fleshless, they remain on the dry and the little eyes of clams and cockles are more visible,..."* (Edolino Gonçalves, n. 1934).

*"With regard to the Moon and its phases, mother would change the olives or not, bake the bread or not, kill the pig or not."* – As A. Romeira Carvalho, a scholar of this area, recalls from his childhood in the 1960s. (2012: 561).

Many of these references can be found in the **"Borda d'Água"** rural almanac, widely distributed and published from the early 19th century. As an indication of the persistence of popular lore, especially concerning the Moon, this was, until a few years ago, the rural journal that indicated the most suitable times for sowing, pruning, harvesting, and shearing, as well as containing weather forecasts. The interpretation of Moisés Espírito Santo, intrigued by the fact that this almanac had been a lunar calendar (published for the first time in Lisbon in 1812 under the name "Lunário, Prognóstico e Diário", which means "Lunar calendar, Forecast and Diary"), has a curious interpretation, proposing an archaic origin for the name Borda d'Água. It would have been the phonetic reproduction of a Phoenician expression that means "moon gazer". (Espirito-Santo, 2004: 177-178)

Indeed, the Moon was the great ordering Mother of nature. Lunar sympathy or lunar determinism is known to all peoples and continents.

> *"The particular rules vary according to place; but the principle generally followed consists of everything that is done to grow or increase something as the Moon grows, everything that will diminish as the Moon wanes. For example, sowing, planting and grafting should be done in the first half of the moon. Felling trees and harvesting in the second half."* (Espirito-Santo, 2004: 175-176).

### STARS AND FARMING

Certain stars have been used as markers for farming activities. With the exception of a number of records by Leite Vasconcelos in

the late 19th century, few memories subsist in Portugal of this ancient knowledge, due to a lack of systematic surveys.

> "*In Paredes de Coura they say that Ursa Major is a wagon: when facing down, it's time for sowing, when facing up, it's not.*" (Vasconcelos, 1986: 64).

In the Canary Islands, where J. Belmonte and M. Sanz de Lara (2011) undertook systematic research on the use of astronomic and meteorological phenomena for predictive or indicative purposes for farming and husbandry practices, there are recent records of the use of the stars as markers.

> "*There's a good number of stars whose function survives in the memory of our informers, which have served for centuries in the work on the land as markers for certain activities. Although they're not many, it's interesting that they are virtually the same as those used in many other places of our cultural area (the Mediterranean).*" (Belmonte and Sanz de Lara, 2011: 83)

To quote some examples: As the "Seven Sisters" (Pleiades) rise at the end of November, the sowing starts, and when they set, in mid-June, the harvest starts; when the "plough" (Ursa Major) rises in the east in December, it's time to till the land; when the "bringer of light" (Venus) rises, the shepherd knows it's time to feed the cattle. (Belmonte and Sanz de Lara, 2011: 83-95).

## WEATHER FORECASTING

Forecasting the weather (rain, wind, storms, heat, cold) was and still is crucial for peasants and seafarers. Rain was essential for field crops, the wind to move the sails of the mill, to clean cereals and legumes and for fisherman, since the waves could prevent them from putting to sea.

Over time, man accumulated experience and the ability to read the signs from nature in the behaviour of animals and plants, stars, atmospheric signs (sky, moons) and to perform various experiments based on his observation of the weather at certain times of the year (*"Canículas"*, *"Arremedas"* – weather forecasts in August and January respectively) or divining practices (such as those in Midsummer) in order to predict the weather. Various surveys and studies have listed ways of predicting the weather in popular lore.[4]

In a recent study on the Traditional Culture of Water in the Algarve Barrocal, the author notes:

> *"The farmer plays with what nature provides him: the various types of soil, the variation in the terrain, the availability of water in the subsoil, the characteristics of each season, the premonitory behaviour of certain animals and plants faced with climate changes... Of which he has a deep, yet tacit, knowledge, which is brought into use when it becomes necessary. Some markets and feasts in the annual calendar are important reference points in this knowledge, as are certain constant natural phenomena."* (Tomé, 2012: 80),

listing further on the various ways of forecasting the weather – "look at the weather" is the popular expression used – in the area studied.

It is believed that changes in the Moon determine changes in the weather.

Many sayings and proverbs related to the Sun and the Moon summarise ancient knowledge.

*"A Lua cheia nunca trouxe* água*; só chove nos quartos"*
*(The full Moon brings no water; it only rains in the quarters);*
*"Circo na Lua,* água *na rua" (Halo around the moon, rain in the street);*
*"Lua com circo,* água *no bico" Moon with halo, water in the mouth;*
*"Lua nova trovejada/ Trinta dias é molhada,/ Senão emborralhada"*
*(Thunder at New Moon / Thirty days of rain / Otherwise covered with ashes);*
*"Cerco no Sol molha o pastor" (Ring around the Sun wets the shepherd;*
*"Sol nascente desfigurado,/ No inverno, frio, no verão, molhado"*
*(Morning Sun disfigured, / Cold in winter, wet in summer);*
*"Sol que nasce em nuvens sentado/ não vás ao mar fica deitado"*
*(Sun that rises seated on the clouds, Don't go to sea, stay in bed).*

This knowledge is still alive in rural Algarve:

*"Se a lua vem emborcada é ano de chuva, vinha derramando"*
*("If the moon is bent low, a year of rain will be shed).*
*"Se vinha com as pontas direitas dizia-se que chovia pouquinho*
*(If its points are turned up, they say it will rain little).*
*Isto era na lua nova" (This was the new moon).*
(Edolino Gonçalves, b. 1934).


UAM 652
SALVA-VIDAS

And among coastal fishermen:

> "*A lua quando vem vendavalosa, vem emborcada, vem assim com as duas pontas para cima. (When the moon brings storms, it comes capsized, with its two points facing upward). É sinal de chuvas e vendavais.* (*It heralds rain and gales.) Quando vem de pé, marinheiro deitado. (When it comes upright, the sailor lies down.) Lua deitada marinheiro de pé." (When the Moon lies down, the sailor stands up).* (Mário Assunção Matos, b. 1936).

The "August Canículas" stood out amongst the various predictions. It consisted of the observation and recording of the weather in the first 12 or 13 days of the month, to which the weather in the 12 months of the following year corresponded. In the Algarve, this was done as follows:

> *"The Borda d'águas" (seers) studied the weather closely for the entire 1st August and, according to the weather behaviour on that day, they made a general forecast for the whole of the following year, from January to December. On 2 August, the observation would continue and the weather on that day would provide the basis for the detailed forecast for January of the following year. This observation would continue and each day, from 2 August, corresponded to the following months in the calendar until December. If it were cloudy and windy in the morning, and sunny in the afternoon, it was a sign that it would rain and be windy in the first half of the corresponding month, and that the weather would be fine in the second half. August 13th corresponded to the forecast for December (...)*

*However, some would not be satisfied with this observation and would repeat the study, along the same lines, on the 14th until August 26th."* (Cardeira, 2003: 69-70).

An identical method, known as "Cabañuelas" is used in Spain. In other areas in Portugal, the "arremedas and the desarremedas" were used as a similar method to forecast the weather. The observation took place in December, between Saint Lucy's Day (13th) and Christmas Eve (24th). The rule adopted was that the weather on 13 December would be the same (*"arremeda"*) as that in January of the following year, the 14th would be the same as that in February of the following year and so forth. However, to dispel any doubts, the *"desarremeda"* was performed, repeating the procedure between 26 December and 6 January. Thus, the 26th replicates (*"desarremeda"*) December, the 27th replicates November, the 28th replicates October, ... and January 6th replicates January.

## ANCIENT BELIEFS IN THE SUN AND THE MOON

Ancient beliefs of a protective or propitiatory nature in both the Sun and the Moon also subsist. In popular tradition, amulets, prayers and sayings attest to the age of lunar beliefs, such as the evil influence of the moon on children (moon disease), who were protected with amulets, or at birth by making the moon their godmother. Blessings to the New Moon are known all over the country, such as

*"God save you, New Moon / I've just seen you now / God save my soul / just as God saved you."* (Custódio, Galhoz, Cardigos, 2009: 318-319).

Or the custom of showing money to the New Moon so it multiplies:

"*New Moon, as you see me now / give me money for the whole month.*" (Custódio, Galhoz, Cardigos, 2009: 319).

The Sun too, recognised as having a negative and positive ambiguity – it both creates and kills, cures and degenerates – continued in rural communities to be cult object in the form of prayers, taboos and festivities. Morning prayers said at sun rise are well known all over the country: *"Blessed be the light of the sun / blessed be that which creates it / blessed be Jesus, the son of the Virgin Mary"*. (Custódio, Galhoz, Cardigos, 2009: 40), implying the relationship between the Sun and Jesus Christ; or "*Here comes Manel [the name given to the Sun]/ which creates everything!*" (Quitério, 1998:81)

Indeed, in some areas of Portugal, the name Manuel is given to the Sun, as a commonly used appeasing act (Lopes, 1998: 28). In Galician vernacular, the Sun is called Lourenzo. (Rodríguez, 2001: 108). We have recently collected the following testimonies in the Algarve:

*"When the fisherman goes to sea, as he casts his net, he sees the sun rise and says: – Blessed and golden may you be, most holy sacrament. – And he would take his hat off In the direction of where the sun rises. Things I learnt from the elders. There was respect When the fishing gear was cast: – May our Lord be with us."* (João Jaime Andorinha, b. 1927);

"*Some would bless themselves as the sun rose*." (Edolino Gonçalves, b. 1934).

Many of these old beliefs and superstitions survive in the form of protective amulets that people still use (necklaces or bracelets), iconographic elements in utensils (yokes, skeps) or constructions (houses, boats), linked to work and everyday life. Representations of the lunar crescent, half-moon or the stars (five- or six-pointed) are common. In the Algarve, for example, it is frequent to paint stars on traditional wooden fishing boats, no doubt for the protection of the vessel and the fishermen and for propitiating an abundant catch. The fishermen also used the stars as guides when they ventured further away from the coast. These iconographic elements, with protective and propitiatory virtues, seem to stem from old cosmogonic conceptions – star animism, belief in their influence on men's life – to which popular art gave stylised forms.

### THE FESTIVE CYCLE

Two archaic axes in the structuring of time and the calendar – the lunar and solar cycles – defined by the succession and alternation of the solstices and the equinoxes, are at the origin of two major annual festive cycles: the Autumn/Winter cycle, characterised by the intensified relationship between the world of the living and the world of the dead, ceremonial foods and the cult of the ancestors; and the Spring/Summer cycle, marked by abundance of food, floral decorations evoking rebirth, the plant cycle and the renewal of nature, and the presence of children and young people to emphasise the ideas of renovation. This is the basis of the cyclical festivities in Portugal, often reusing the same dates and locations of former pre-Christian cults. (Saraiva, 2002: 12-17).

Foods, dishes, special meals are associated with annual cyclical celebrations, as mandatory events in the festivities, albeit with some regional diversity, as a continuation of old celebrations in which such foods already had a symbolic significance. Certain foods are consumed because they are seasonal and regional, but mainly because they bear a special meaning as they are "*food for thought*" as C. Lévi-Strauss put it.

### AUTUMN/WINTER CYCLE

**All Saints' Day and All Souls' Day** (**1 and 2 November**) open the Winter cycle. These are days devoted to the dead, to caring for your ancestors, to cleaning and decorating their graves. Food practices include the "*magustos*" when chestnuts are roasted in braziers and wine, and they extend to Saint Martin's Day. In some regions, the custom has subsisted of putting chestnuts on the table at midnight on 1st November for dead relatives to eat during the night (Oliveira, 1984: 182). Indeed, as Veiga de Oliveira recalls, "

> *The have been since Neolithic times numerous events which seemingly indicate a cult of the dead in the form of traces of food dedications on burial sites.*" (1984: 188). This tradition would have persisted until the Modern Age: *"the Constitutions of the Porto Diocese expressly mention manducations on graves, as they decreed a general ban on funereal feasts in temples.*" (1984: 188).

While Easter and Christmas are times for offerings, the "Saints", as well as carols at New Year, Twelfth Night, Carnival and May Day,

are times for public collection. Until recently ceremonial collection was an entrenched custom, with children[5] going from door to door asking for the "bread for God". They were given walnuts, chestnuts, pomegranates and dried figs.

> "*In the Algarve (...) small special maize bread rolls are baked to be eaten, which constitute the main traditional donation given to the children collecting gifts.*" (Oliveira, 1984: 182).

**Christmas (25 December)**, the Christianisation of a solar feast coinciding with the Winter Solstice, was traditionally celebrated with the burning of a log in villages (a tradition that is still alive in some rural areas). At this time, fires symbolically evoke the Sun and aim at stopping its decline, propitiating a new cycle of renewal. The cockerel, associated with Midnight Mass, is also a solar symbol and heralds the reversal of the degeneration of the Sun (Lopes, 1998: 142).

From a food perspective, the supper shared with the dead (*alminhas*) should also be noted. Indeed, at Christmas, like on the Saints' Days, the cult of the dead continues, in the belief that one's ancestors will join the living for the Christmas supper.

> *"Let no-one think tonight*
> *They will sit alone at the table,*
> *Because our dearest dead*
> *Will come and sit by our side."*
> (Oliveira, 1984: 207-210)

On 8 December, in the Algarve, the nativity scene and the popular small altar are erected. In houses, on the chest of drawers, the baby Jesus is placed in the centre on steps, surrounded by ears of wheat and oranges, as signs of bread and prosperity for the family.

**Carnival (a mobile feast) or Shrove Tuesday**, as the peasants prefer to call it, at the start of the agrarian cycle, just before Spring, is a trace of remote purification ceremonies to expel the winter's evil forces to renew the growing cycle (Oliveira, 1984: 60). It is "*a representation of the death of all living things and a collective rebirth.*" (Espírito-Santo, 1990: 65).

It is a time of permitted excesses, transgression, irreverence. The burial of Carnival, the burning of the *Compadre and Comadre* dolls, symbolises the death of winter, heralding the joys of abundance at a time when the annual farming cycle begins again. With regard to food, "*there's no shortage of food which is highly improved, comprising all kinds of meat, particularly pork.*" The cockerel also appears in some places as a mandatory dish. Syrupy fritters are the main dessert.

There is an expression that goes:

*"On Shrove Tuesday*
*Anything is eaten."*
(Oliveira, 1984: 59-68)

### SPRING/SUMMER CYCLE

Collective forays into the fields to eat lamb on Easter Monday are still associated with the Spring equinox – which we celebrate with **Easter** (on the 1st Sunday following the Spring Full Moon), together with the blessing of branches, which may include rosemary, bay, olive

and flowers, on Palm Sunday, and gifts of Easter cakes, eggs and almonds, the quintessential symbols of fertility. In May, we have the **"maios-moços" and the "maias"**, floral characters played by children and young people; a branch of broom placed on doors to scare away the "maio" or the "burro" [evil, disease] and, in the Algarve, collective outings into the fields, on May Day, to eat by the water (snails, fig and almond cheesecakes with eau-de-vie). These are traditions that seem to re-enact the primary sense – the rebirth of nature – of ancient equinox celebrations that marked the beginning of the year in many cultures.

**Midsummer** (on 24 June[6], the month of popular saints) signals the Summer solstice with bonfires, lamps, bedecked masts, aromatic herbs and healing water, ritual baths, divining practices related to marriage, health and happiness. Such celebrations and beliefs are rooted in ancient solar and solstice cults and festivities associated with fertility, the height of the sun's fecundating strength, heat and power which governed that agricultural calendar. From a food perspective, "*it is a poor, featureless season, with rare areas where any specific dish can be identified*." (Oliveira, 1984: 175) Foods are diversified, according to areas, but abundance and euphoria are always present.

E. Veiga de Oliveira writes about food in feasts as follows:

> "*Food is the stay of life and, therefore, one identified with it, and it should appear to primitive man charged with the prestige of superior and mysterious forces on which the human being relied. We could thus infer that, in these remote times, it went beyond its fundamental nourishing function and its social significance, and, confounding utilitarian and mystic aspects, a supra-nutritional value and nature was assigned to it beyond*

*those functions; and that, based on these, it was, on certain occasions and certain species, the object of effective or symbolic special sacrifices, offerings or manducations with the character of propitiatory or purification practices of an imitative or prophylactic magic, associated with cultural celebrations to foster fertility and abundance.*" (1984: 205).

As mentioned earlier, the ritualised consumption of certain food is associated with the complex ceremony of cyclic festivities. It's not just what one eats that matters, but how and why one eats. Food can be the object of public collections, as happens in the Saints' Days, Twelfth Night, Carnival or May Day; and offerings at Easter, such as Easter cakes, eggs and almonds. It can be eaten at collective rituals in the fields, such as at Easter and May Day, in towns and villages, such as in the *magustos* on the Saints' Days or St. Martin's Day, or in the intimacy of the home, such as on the Day of the Dead or at Christmas, with a place set for ancestors. In all cases, food has a *supra-nutritional* and symbolic value, as Veiga de Oliveira states. Propitiating the favour and protection of ancestors or announcing the desired abundance, what we eat on festive occasions carries ancient meanings, inherent in humans in its relationship with the natural world, which we relive, even unwittingly, on each celebration.

## FINAL CONSIDERATIONS

Man was aware from the earliest times of a close relationship between the movement of the stars **in the sky** and the growing cycle (on which he relied for survival) **on the earth**. This perception gave rise to: calendars governing the agrarian cycle; ancient knowledge

and practices related to the stars and their influence on farming and animal breeding activities; beliefs in the protective and propitiatory power of the stars over people and crops; and cyclic festivities. Food, the sustenance of life, is a cultural element, emerging with a symbolic value in festive ceremonies, propitiating abundance and the favour of the ancestors and the gods. Underlying this relationship between the stars and the agrarian, food and festive cycles is a multidimensional concept of life, as Moisés Espírito-Santo notes:

> *"According to the organisation of the peasant calendar, work, religions and social life are closely linked to a multidimensional concept of life (...) to the extent that it is not possible to state with any certainty what is exactly celebrated, whether a god, the life of the group, order or the development of vegetation."* (1990: 64).

**NOTES**

1 Text previously published in Romano, A. (Ed.) (2014), *A dieta mediterrânica em Portugal: cultura, alimentação e saúde*, Ed. Universidade do Algarve, Faro. pp. 154-170.

2 The meaning of these astral orientations lies in the relationship between the conspicuous and structural monuments and features of the landscape (mountains, valleys), often laden with significance, where the stars are observed at certain times (equinoxes and solstices).

3 *"The religious phenomenon reveals itself, in all eras and regions, as an 'inherited conglomerate'"* (Ribeiro, 2002: 9).

4 In Portugal, the following could be cited: *Mudam os Ventos, Mudam os Tempos (Change of Winds, Change of Weather). O Adagiário Popular Meteorológico (Popular Weather Proverbs)* (Alves, 2002); and interesting references among shepherds in *Pastores, guardiões de uma paisagem* (Shepherds, the Guardians of a Landscape) (Chambino, 2008). In the Salamanca region, in Spain, there is a book entirely devoted to the topic of the weather *(Meteorología y cronología populares)* (Popular Meteorology and Chronology) (1987).

5 The children who go begging from door to door on All Souls' Day seem to represent the soul of the dead who wander roam the Earth on that occasion (Oliveira, 1984: 188-189).

6 June was until recently known by peasants as the month of bonfires. (Espírito-Santo, 1990: 64).

## BIBLIOGRAPHICAL REFERENCES


ALMEIDA, G. (s.d.). *O céu e as tradições: preservar o céu dos nossos avós* in Website: http://nautilus.fis.uc.pt/rc/wp-content/uploads/2011/08/O_ceu_e_ as_tradicoes3.pdf

ALVES, M. C. (2002). *Mudam os Ventos, Mudam os Tempos. O Adagiário Popular Meteorológico*, 2nd edition. Gradiva. Lisbon.

BASTOS, C. (1987). *Os Montes do Nordeste Algarvio.* Universidade Nova de Lisboa, Faculdade de Ciências Sociais e Humanas. Lisbon. (Policopied Edition)

BELMONTE, J. A. and Sanz de Lara M. (2001). *El Cielo de los Magos.* La Marea. Santa Cruz de Tenerife.

BLANCO, J. F. (Dir.) (1987). *El tiempo (Meteorología y cronología populares).* Ediciones de la Diputacion de Salamanca. Salamanca.

BLÁSQUEZ, J. M. (1991). *Religiones en la España Antigua*. Ediciones Cátedra. Madrid.

CARDEIRA, F.G. (2003). *Memórias.* Tavira.

CARVALHO, A. M. R. (2012). O Céu e os homens: o sol, a lua e as estrelas na ruralidade. *AÇAFA online, no. 5 in Web Site* http://www.altotejo.org/acafa/ docsn5/o_ceu_e_os_homens.pdf.

CHAMBINO, E. (2008). *Pastores, guardiões de uma paisagem.* Município de Idanha-a-Nova.

CUSTÓDIO, I.F., GALHOZ, M.A., CARDIGOS, I. (2009). *Orações. Património Oral do Concelho de Loulé.* vol. III, Câmara Municipal de Loulé. Loulé

CUSTÓDIO, I.F., GALHOZ, M.A., CARDIGOS, I. (2011). *Cancioneiro. Património Oral do Concelho de Loulé.*vol. IV, Câmara Municipal de Loulé. Loulé.

(2013). *Dieta Mediterrânica. Património Cultural Milenar*. Museu Municipal de Tavira. Tavira.

ESPIRITO-SANTO, M. (1990). *A Religião Popular Portuguesa*. 2nd edition, Assírio & Alvim. Lisbon.

ESPÍRITO-SANTO, M. (2004). *Cinco Mil Anos de Cultura a Oeste. Etno-História da Religião Popular numa Região da Estremadura.* Assírio & Alvim. Lisbon.

JUNQUEIRO, A. (1902ª). Astronomia e meteorologia rústica. Lua. Suas influências. *A Tradição. Revista mensal d'ethnographia portugeza.* Serpa. IV (8): 123-124.

JUNQUEIRO, A. (1902b), Astronomia e meteorologia pastoril. As estrelas. *A Tradição. Revista mensal d'ethnographia portugeza*, Serpa. IV (8):137-139.

LOPES, A. (1996). *O Percurso de Selene. A Lua na Tradição Popular*. Santarém.

LOPES, A. (1998). *Tempo de Solstícios*. O Mirante. Santarém

NASCIMENTO, A. (2002). A religião dos rústicos. In L. Raposo (Coord.), *Religiões da Lusitânia. Loquuntur Saxa*. Museu Nacional de Arqueologia, Lisbon.

OLIVEIRA, C., Da Silva, C.M. (2010). Moon, Spring and Large Stones. In D. Calado, M. Baldia, M. Boulanger (eds.), *Proceedings of the World Congress UISPP* (Lisbon, 4-9 September, 2006). Session C68-Monumental Questions: Prehistoric Megaliths, Mounds and Enclosures, BAR International Series. 2122(7): 83-90.

OLIVEIRA, C. (2009). The Moon in the Perception and Measurement of Social and Ritual Time. Comments on the Pre-historic Record. In J. A. Rubiño-Martín, J. A. Belmonte, F. Prada, Alberdi (eds.), *Cosmology Across Cultures. Astromomical Society of the Pacific Series*. 409: 364-369.

OLIVEIRA, C. (2011). The cosmos in Portuguese popular tradition. A bibliographic and field work approach. In F. Pimenta, N. Ribeiro, F. Silva, N. Campion, A. Joaquinito, L. Tirapicos (eds.): *Stars and Stones, Proceedings of The International Conference on Archaeoastronomy and Ethnoastronomy* with the theme Stars and Stones: Voyages in Archaeoastronomy and Cultural Astronomy – A meeting of different worlds (Évora, 19 – 23 September 2011).

OLIVEIRA, E. V. (1984). *Festividades Cíclicas em Portugal*. Publicações D. Quixote. Lisbon.

PEDROSO, C. (1988). *Contribuições para uma Mitologia Popular Portuguesa e Outros Escritos Etnográficos.* Publicações D. Quixote. Lisbon.

RIBEIRO, J. C. (2002). Religiões da Lusitânia. *Loquuntur Saxa.* In L. Raposo (Coord.), *Religiões da Lusitânia. Loquuntur Saxa*. Museu Nacional de Arqueologia, Lisbon.

RODRÍGUEZ, E. (2001). B*reviário enciclopédico "don Eladio". Letras, historias e tradicións populares de Galicia.* La Voz de Galicia.

SARAIVA, C. (2002), Introdução Geral. In *Festas e Tradições Portuguesas*, janeiro. Círculo de Leitores. Rio de Mouro,

TOMÉ, S. (2012). *A Água Dá, a Água Tira. Estudo sobre a Cultura Tradicional da Água no Barrocal Algarvio, Freguesias de Querença, Tôr e Salir do Concelho de Loulé.* Author's edition.

VASCONCELOS, J. L. (1980), *Etnografia Portuguesa.* Vol. VII. INCM. Lisbon.

VASCONCELOS, J. L. (1986) (1st edition 1882), *Tradições Populares de Portugal*, 2nd edition. INCM. Lisbon.

## ORAL TESTIMONIES COLLECTED BY THE AUTHOR IN CACELA, VILA REAL DE SANTO ANTÓNIO, ALGARVE, 2011

Edolino Gonçalves, farm hand, b. 1934, Santa Rita, Vila Real de Santo António.

Fernanda Horta Isabel, b. 1931, Santa Rita, Vila Real de Santo António.

Francisco António Gonçalves, shepherd, b. 1950, Santa Rita, Vila Real de Santo António.

João Jaime Andorinha, fisherman, b. 1927, Santa Rita, Vila Real de Santo António.

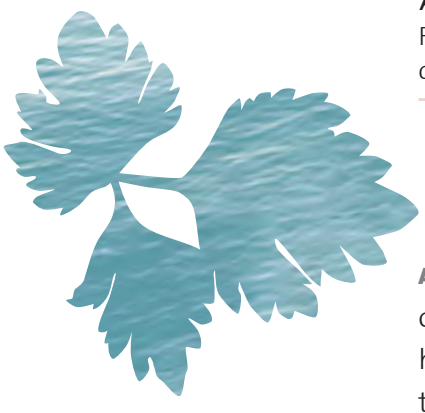
Mário Assunção Matos, fisherman and shellfish catcher, b. 1936, Fábrica, Vila Real de Santo António.

3

# An age-old training process

# Domestication and diffusion
## The origins of the Mediterranean diet[1]

ANTÓNIO FAUSTINO CARVALHO
Faculdade de Ciências Humanas e Sociais
da Universidade do Algarve



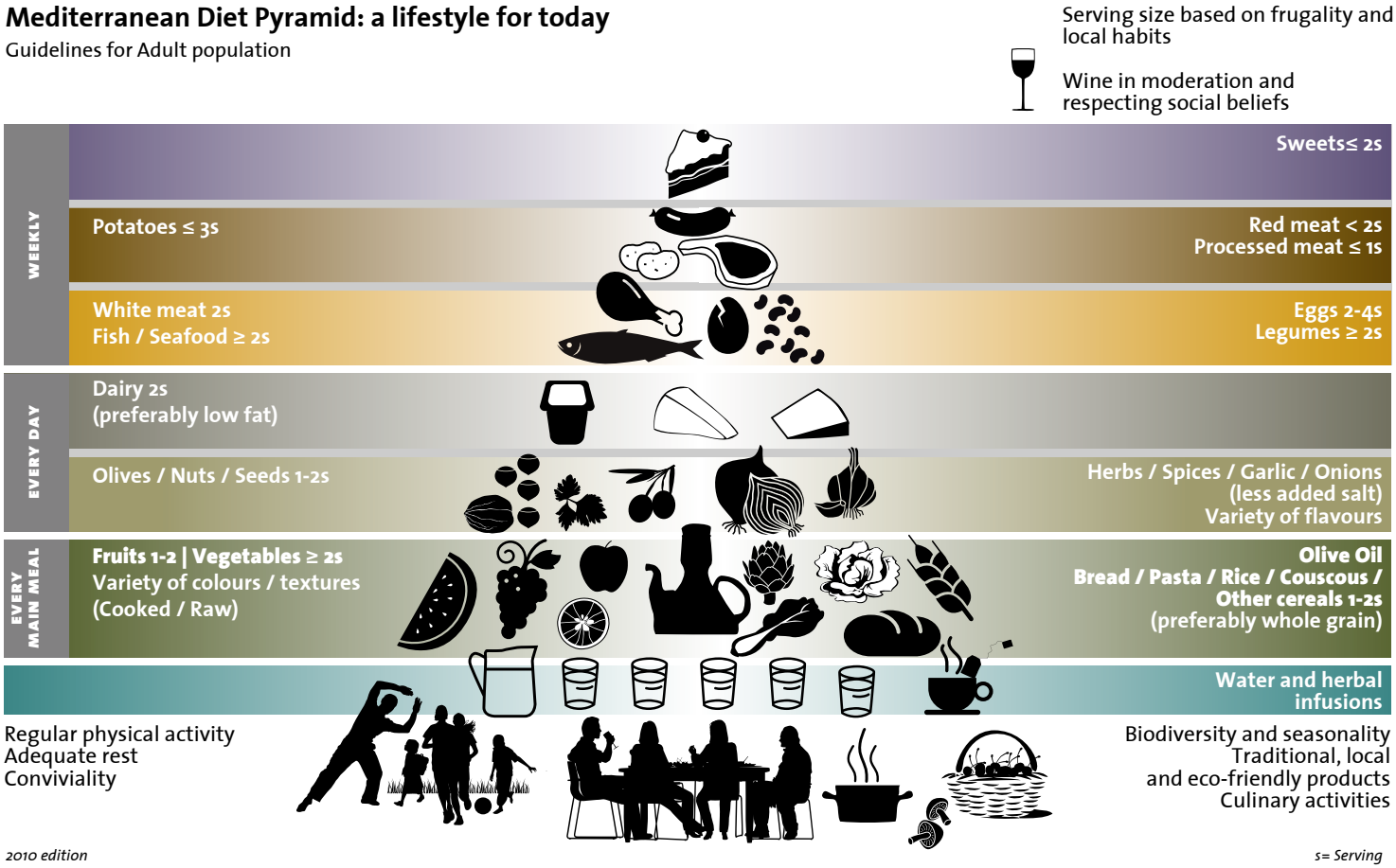
**ABSTRACT** The diffusion process of some components of the so-called "Mediterranean diet" is briefly outlined here, and more specifically, those dating back to Prehistoric times. This is the case of wheat and barley, legumes (broad beans, peas, lentils and grass peas) and some livestock (cattle, goats, sheep and pigs). The introduction of these foods, whose common denominator is the fact that they are domesticated species, provided radical changes, not only to the diet strategies of the Mediterranean peoples, but also to their way of living.

**KEY WORDS** Prehistory, domestication, Mediterranean.

## INTRODUCTION

From a broad historical perspective, the so-called "Mediterranean diet" can only be understood as a set of resources and food options that formed progressively over time. This statement, such as made, wrongly implies the idea of a relatively simple historical, cultural, economic and other processes. However, the Mediterranean diet, such as we know it today, is widely varied in its composition, derives from an ancient, typically cumulative formation process, and has an internal structure – or rather, results from a diet pyramid – which is not only highly stratified, but has undergone different reconfiguration steps.

Consider the proposed Mediterranean diet pyramid devised by *Fundació Dieta Mediterránea*[2], shown in Figure 1. It should be noted that, excluding the consumption of water and infusions, it comprises six well differentiated levels of solid food. However, a considerable part of these foods has only been incorporated into the pyramid in the last few hundred years. This is the case of potatoes and some legumes, such as beans, which are native to the American continent, where they were grown for the first time in Peru 7,000 and 4,000 years ago respectively (Bellwood, 2005); or rice, domesticated in the Yangtze River valley, in China, 9,000 years ago, and only introduced into the Mediterranean much later by the Arabs in the 10$^{th}$ century (Buxó, 1997). These examples, historically closer to us, show that this is not a crystallised, finished reality, but one in permanent change. In other words, we try to classify a fluid reality which will continue to change, regardless of our will to preserve it such as we recognise it in our lifetime...




© 2010 Fundación Dieta Mediterránea
The use and promotion of this pyramid is recommended without any restriction

FIGURE 1 Mediterranean diet pyramid, as proposed by the Fundació Dieta Mediterránea.

Indeed, the origins of the Mediterranean diet can be traced back to the remotest human past. The aim of this text, therefore, is to outline its primitive characteristics and those of the earliest major changes it underwent. In particular, reference will be made to when part of the food resources used by the Mediterranean peoples was domesticated and, subsequently, disseminated. This domestication phenomenon took place 10,000 years ago in the Near East and, from there, domesticated plants and animals spread, through complex cultural mechanisms that fall beyond the scope of this paper, across Central Asia, the Nile Valley and the European continent, reaching the Iberian Peninsula around 5600 BC. The main feature of this broad geographical and long time scale process is that we are dealing only with species which are natural to the Mediterranean bioclimatic domain, even if their original habitats were at times confined to more restricted geographical areas, as we shall see below.

This cultural event, of major importance to the understanding of our current lifestyles, took place in Prehistory, during the Neolithic period. One could even say that the neolithisation process was responsible for the first form of intentional and cross-regional Mediterranean diet: "intentional" because it derives from the deliberate cultivation of plants and stock-breeding for human consumption; "cross-regional" because its diffusion across the Mediterranean world and beyond made it the common denominator of all human societies of the time.

## THE "MEDITERRANEAN DIET" OF PALAEOLITHIC AND MESOLITHIC HUNTER-GATHERERS

Some 10,000 years ago, slow, yet deep and irreversible, environmental changes occurred on a planetary scale. These would mark the end of the glacial, Palaeolithic times, and the advent of the temperate, mild climate conditions that we know today, thus enabling agriculture to be invented. The geography of glacial Europe, and hence the Mediterranean, would be unrecognisable today: for example, the permanent polar ice cap extended all over Scandinavia and the British Isles, which would have been uninhabited; the Irish and North Seas would have been vast unsubmerged territories; and the plains around the rim of the polar ice cap would display a landscape typical of today's cold Siberian steppes. The continental coastline would, therefore, have jutted out several kilometres into what is today the high sea.

We know, both from zooarchaeological studies of the hunted animals and from the chemical analyses of human bone remains (Richards, 2002; Richards and Trinkaus, 2009), that the food strategies of the Palaeolithic communities of hunter-gatherers were based on the consumption of large wild herbivorous mammals that populated the cold European steppes of the time, such as mammoths, woolly rhinoceroses, reindeer, horses or aurochs (wild ancestors of the domestic oxen). In our territory, there is no better picture card of the megafauna of this era than the Palaeolithic rock-art of the Côa Valley. Despite insufficient archaeological records, we know that the consumption of spontaneous vegetables accounted for a lower percentage of these groups' diet, and the same could apply to the consumption of shellfish and fish.

It could be concluded that this original Mediterranean diet pyramid in Palaeolithic times only had three major levels: at the base, red meat from large herbivores; at the top, spontaneous plants and some aquatic foods.

The emerging climate conditions 10,000 years ago triggered a chain of radical consequences for the vegetal cover and wildlife. The cold steppe of central Europe gave way to dense temperate forests, the megafauna became extinct or migrated further north (keeping pace with the glacier contraction) and was replaced with smaller species, such as wild boar and red deer. As such, the large Palaeolithic herbivores disappeared from human food models and hunting strategies had to adapt to this changing world.

The more dramatic environmental changes would perhaps have been those resulting from the rise in the sea level as a consequence of the melting of the permanent glaciers. This transgressive phenomenon of coastline contraction gave rise to the formation of wide estuaries at the mouths of the main rivers. The formation of these coastal and estuary ecosystems, of very high biodiversity, provided easy access to a wide range of foods which, although not unknown, took on a hitherto unheard of importance. In fact, the consumption of fish and various shellfish, together with water birds and spontaneous plants, would become such an important feature in Atlantic coastal regions that a very typical archaeological site emerged, the so-called "concheiro" (shell midden) which, as the name suggests, consists of huge accumulations of shells from the local consumption of shellfish.

In the Mediterranean itself, there are various types of evidence pointing to the consumption of sea resources (Colonese *et al.*, 2011; Gutiérrez-Zugasti *et al.*, 2011), although never reaching the importance they had in Atlantic regions, namely in the centre and south of modern-day Portugal (Carvalho and Petchey, 2013). And the reason is obvious: due to the absence of upwelling phenomena or important river discharges, the waters of this inner sea were considerably less productive than the Atlantic's. So the sometimes popularised – or perhaps even overrated – idea of the importance of Mediterranean fishing and its role in the diet should be taken with a pinch of salt when compared to Atlantic fishing. This conclusion is valid not only today, when the shortage of fish in the Mediterranean is being offset by the increase in aquaculture, but also in Prehistory. Chemical analyses of Mesolithic and Neolithic human remains from Mediterranean Spanish (Fernández *et al.*, 2013; García *et al.*, 2006) and Italian (Mannino *et al.*, 2011, 2012) archaeological sites have demonstrate in fact that the consumption of marine foods, when present, rarely made up more than 20% of the total of the respective diets.

Therefore, the diet pyramid of this intermediate phase, sandwiched between the Palaeolithic and the Neolithic, known as the Mesolithic period, would have been richer and more diverse. It was still based on red meat from herbivores, although in coastal or estuary regions a second level arose composed by foods of aquatic origin, followed, to a lesser extent, by other meats and some edible plants, in proportions as yet difficult to assess correctly.

## THE CONTRIBUTION OF EARLY FARMING SOCIETIES TO THE MEDITERRANEAN DIET

During the Neolithic period, the first major changes happened in the structure of the food strategies of Mediterranean societies. By definition, the Neolithic corresponds to the beginning of plant and animal domestication. In other words, this was an initial intentional manipulation by humans of the reproduction, growth and behaviour of plants and animals. These manipulations and their consequences were so far-reaching that biologists found themselves having to differentiate taxonomically between domestic and wild varieties.

The oldest forms of plant and animal domestication occurred, perhaps not accidentally, in Mediterranean regions or their immediate proximity: the Near East. For reasons that the archaeological debate has not yet unanimously clarified, it was some 10,000 years ago that the process of domestication of a range of legumes, cereals and animals began in this broad region, which became, in nutritional terms, the greatest and most important assemblage of domestications of the whole of Prehistory. This territory is an extensive corridor in the shape of an inverted U – for this reason called the "fertile crescent" – which is no more than an ecotone strip. This strip, following the northern boundaries of the Near Eastern deserts, borders directly the Zagros Mountains to the east, the Taurus Mountains to the north and the Mediterranean to the west, along the Syrian-Palestinian corridor.

In fact, nearly all the species involved in this process have their habitats in the "fertile crescent" regions (Buxó, 1997; Buxó and Piqué,

2008; Zapata *et al.*, 2004; Zohary and Hopf, 2004). This is the case of legumes. With the exception of broad beans and grass peas, whose wild ancestors we do not know and which could have originally spread across the Mediterranean Basin, the habitats of all the others are distributed between Anatolia and the Iranian plateaux. Nearly all these legumes were introduced into Europe during the Neolithic period, either for human consumption, such as peas (*Pisum sativum*), broad beans (*Vicia faba*) and lentils (*Lens culinaris*), or as animal fodder, such as grass peas (*Lathyrus sativus*), although the latter may also have been part of the human diet in some traditional dishes or in food shortage situations. Only chick peas (*Cicer arietinum*), although domesticated during the Near-Eastern Neolithic, were introduced in the Iberian Peninsula much later, in the Iron Age, around the 6th century BC.

In turn, the first domesticated cereals were barley (*Hordeum vulgare*) and wheat (*Triticum* sp.). With regard to wheat, two of the authors who have studied plant domestication more extensively, D. Zohary and M. Hopf (2004, p. 19-20), summarised their importance as follows:

> *"Wheats are the universal cereals of Old World agriculture. Together with barley, they constituted the principal grain stock that founded Neolithic agriculture and the main element responsible for its successful spread. [...] Today, wheats rank first in the world's grain production and account for more than 20 per cent of the total food calories consumed by humans. They are now extensively grown throughout the temperate, Mediterranean-type, and subtropical parts of both hemispheres of the world. Wheats*

*are superior to most other cereals [...] in their nutritive value. Their grains contain not only starch ([...] 60-80 per cent), but also significant amounts of protein (8-14 per cent). The gluten proteins present in the seed endosperm give wheat dough its stickiness, and its ability to rise when leavened, in other words, unique baking qualities. Wheats were, and still are, the preferred staple food of traditional farming communities throughout the Old World from the Atlantic coast of Europe to the northern parts of the Indian subcontinent, and from Scandinavia and Russia to Egypt. Thus it is not surprising that in numerous cultures* food *has been equated with* bread."

This long quote nicely illustrates the role of this cereal in nutritional and economic, as well as cultural terms. Thus, it should be noted that the use of cultivated wheat as food has been part of Mediterranean History for 10,000 years!

Excluding the dog, which was domesticated in various regions of the globe from the wolf, as long ago as Palaeolithic times, as a pet and hunting animal, the first attempts at domestication of other animals in the "fertile crescent", this time for feeding purposes, also date from some 10,000 years ago. There is currently a very wide set of archaeological, iconographic, zooarchaeological and genetic evidence which demonstrates the success of this enterprise which would give rise to pigs (*Sus domesticus*) from the domestication of the wild boar, the goat (*Capra hircus*) from the Near-Eastern wild goat, the sheep (*Ovis aries*) from the Eastern mouflon, and the ox (*Bos taurus*) from the auroch.

A key aspect related to animal domestication has to do with the products obtained from them. On this issue, prehistorians have identified a crucial divide between "primary products" (i.e. the use of meat for food, the hide for clothing and other artefacts, and the bones and horns to make tools) and "secondary products". The latter could be described, in simple terms, as those that the animal can offer while alive. This comprises the use of its pulling force, i.e. as a draught animal, the use of the wool and the consumption of milk and blood. The latter custom is still present today in some African cattle breeding communities, such as the Maasai, and it is believable that it may also have been practised by prehistoric European populations. Any of these choices regarding the use of secondary animal products had dramatic consequences for the lifeways of Neolithic societies.

In particular, the consumption of dairy products assumed an even greater importance from various perspectives. In practical terms, it enables food to be stored for long periods of time, thus overcoming any seasonal food crises: such is the case of yoghurts and, more importantly, cheeses. This strategic factor of medium and long term food management or in food risk situations was a true economic revolution within the wider economic revolution that animal domestication meant.

However, a very interesting aspect of this revolution is that it did not occur in all regions of the world which went through, in their History, a process of agriculture acquisition. At this level, there are asymmetries and contrasts for which the explanation is surprising and stems from the fact that human beings, as adults, tend to be

intolerant to lactose, the sugar present in milk and milk derivatives. The enzyme enabling lactose hydrolysis – lactase – disappears after weaning, and only continued consumption of dairy products makes for the persistence of lactase (Leonardi *et al.*, 2012). It is, therefore, interesting to see that not all human populations are lactase-persistent, as the map in Figure 2 shows, where the white and greyish colours represent the most milk-tolerant populations, and the bluish colours the intolerant populations. As we can see, among intolerant peoples, are the Chinese, the Japanese and the natives of Southeast Asia, or the bushmen from the Kalahari Desert; conversely, the most milk-tolerant societies include Europeans, Africans and globally, therefore, all Mediterranean peoples.

So, what does this variation mean? It means that, in some regions, at some point in the Neolithic, the habit of consuming milk and milk derivatives was introduced. The culturally induced insistence on the consumption of dairy products will have resulted, after a few generations, in human societies tending to be lactase-persistent. These have included, some 7,000 years ago, the Mediterranean Neolithic societies which started to incorporate diversified dairy products into their diet. In short, one could say in all fairness that the latest stage in human biological evolution was the adaptation to lactose.

Indeed, the abovementioned domestic animals will have accompanied the early Neolithic groups which came from the Near East, crossed the Aegean and colonised the European continent and both shores of the Mediterranean Sea, and will have provided these goods and the know-how to the indigenous communities of hunter-gatherers (for a

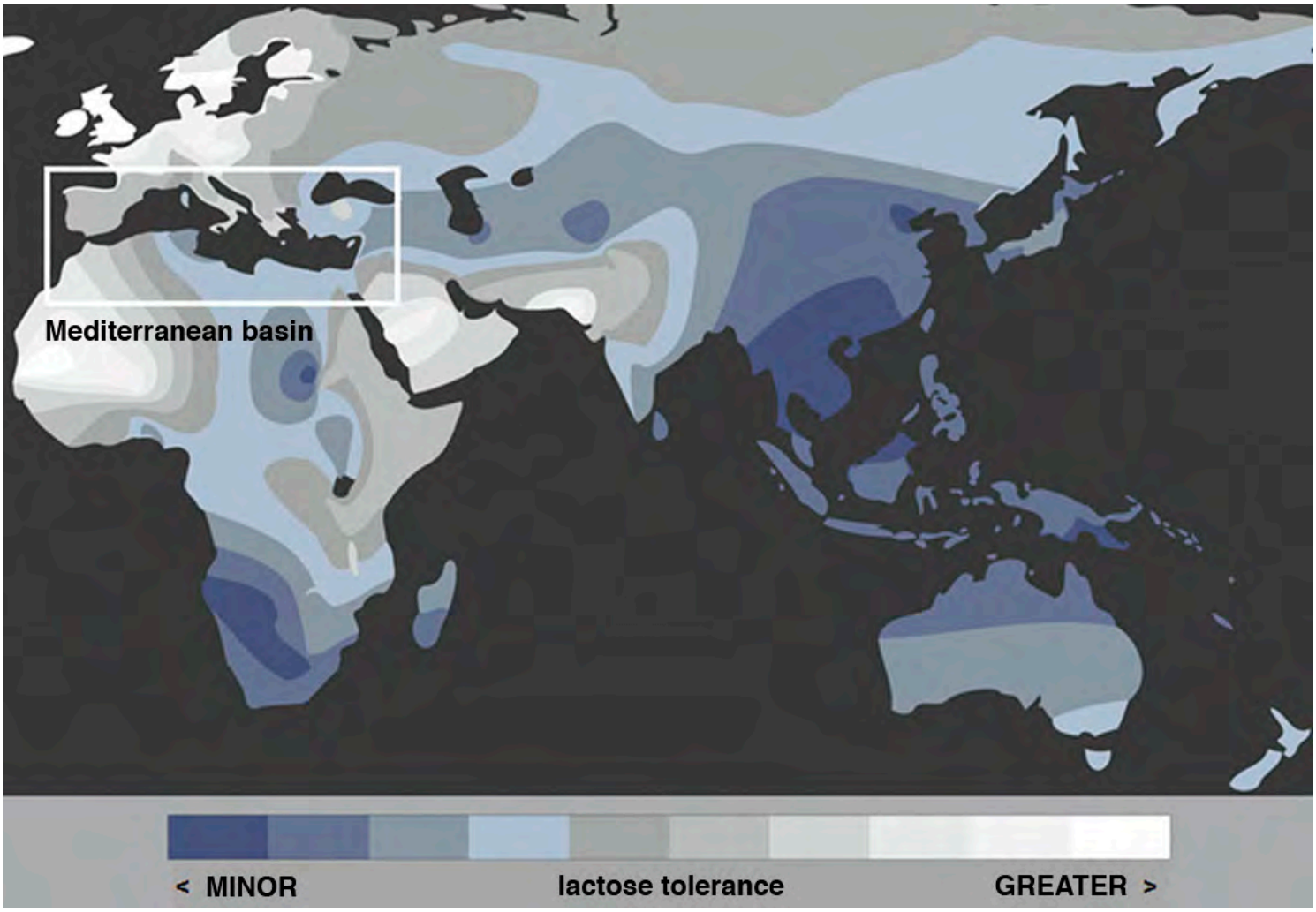



**FIGURE 2** Geographical variation of lactose tolerance among current Old World human populations (cartographic base taken and adapted from Leonardi *et al*., 2012: fig. 2).

recent summary, see Zeder, 2008). From this complex (pre-)historic process – the neolithisation process – a number of culturally differentiated entities emerged across the continent, albeit Neolithic in the economic sense of the concept. The map in Figure 3 offers an overview of this process. A very important fact, however, should be retained from its analysis: from the Balkans, the progress of the Neolithic period branches out. On the one hand, it crosses the wide Central European plains up to the Paris region and, on the other, it heads to the Western Mediterranean and settles on both peninsulas, the Italian and the Iberian.

Interestingly, different economic and, naturally, cultural adjustments would have corresponded to these two routes. Influenced by a certain geographical determinism, it is a fact that contrasting "Neolithics" were formed between Central Europe and the Southern Mediterranean. The reconstruction of the economic strategies of both, such as we know them today (e.g. Marinval, 1999; Vigne, 2005), shows differences that cannot be considered other than significant since they herald the emergence of a typically Mediterranean way of life, in such a remote period of its History as the 6$^{th}$ millennium BC.

It is well established today, for instance, that the cultivation of einkorn and emmer predominates in Central Europe (the best suited to colder and rainier winters) and bovine breeding (the animals most adapted to the wide plains of these regions). Conversely, as early as the Neolithic period, various types of cereal predominate in the Mediterranean, albeit accompanied – abundantly, it could be said – by broad beans, peas and lentils, and by sheep and goats. This fundamental difference already reflects a clear adaptation both to the harshness

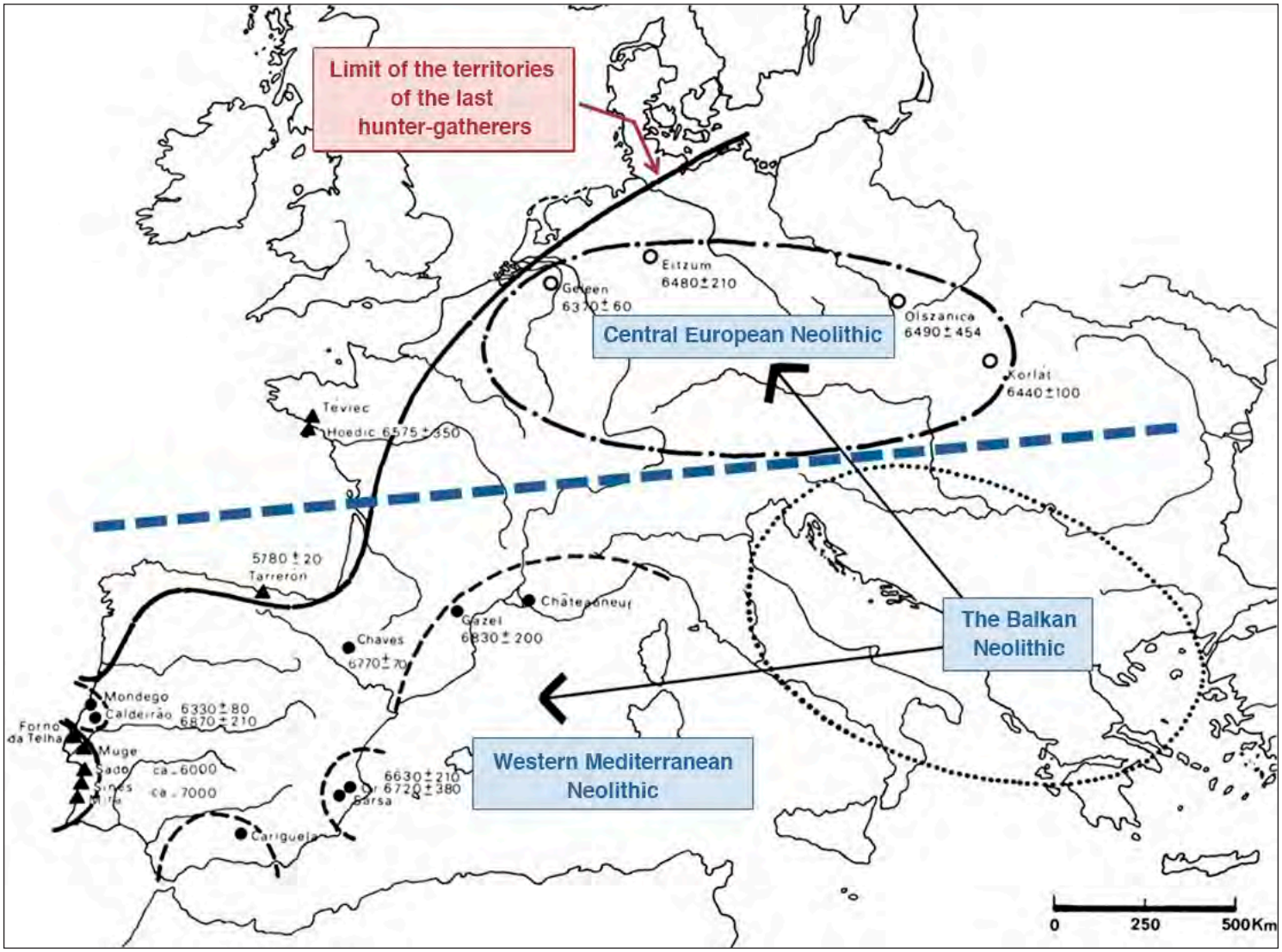



**FIGURE 3** Main Neolithic entities in Europe in the 6th millennium BC. The dotted line traces approximately the essential differences between the economic strategies of Mediterranean and Central European Neolithic societies (cartographic base taken and adapted from Zilhão, 1993, fig. 10).

of winter in Mediterranean mountains and mountain ranges, and to the sheltered and mild locations of the wide, jagged coastline which characterises this inner sea. It is unquestionably at this point in Prehistory that the Mediterranean diet took root.

Therefore, looking again at the diet pyramid in Figure 1, we can conclude that it was actually in Prehistory that some of its structural features gained shape. This is in particular the case of the emergence of cereals throughout the 7th and 6th millennia BC, which together with the consumption of legumes, and dairy products became, in the end, one of the many features that more explicitly characterise the Mediterranean diet.

## WHAT ABOUT AFTER PREHISTORY?

However, the emergence and full affirmation of the Mediterranean food trilogy – wheat, olive oil, wine – took place much later. While the introduction of wheat is quite remote, the diffusion of olive oil and wine – not just their trade but also, more importantly, their actual production – across the region, took place in the last millennium before our era.

However, the lack of complete agreement among the various authors of Antiquity on the origin and the methods and dates of diffusion of the various vine and olive tree varieties, and on the other hand the ubiquitous presence of wild vines and olives in both shores of the Mediterranean Sea, all point to a huge complexity of historical processes also regarding the origin and dissemination of these important components of the Mediterranean diet.

## NOTES

[1] Text previously published in Romano, A. (Ed.) (2014), *A dieta mediterrânica em Portugal: cultura, alimentação e saúde*, Ed. Universidade do Algarve, Faro. pp. 124-136.

[2] Accessed in May 2013 at the website of the *Fundació Dieta Mediterránea*: http://dietamediterranea.com/

## BIBLIOGRAPHICAL REFERENCES


BELLWOOD, P. (2005), *First farmers. The origins of agricultural societies*. Blackwell. Oxford.

BUXÓ, R. (1997), *Arqueología de las plantas. La explotación económica de las semillas y los frutos en el marco mediterráneo de la Península Ibérica*. Barcelona, Crítica.

BUXÓ, R. and PIQUÉ, R. (2008), *Arqueobotánica. Los usos de las plantas en la Península Ibérica*. Barcelona, Ariel.

CARVALHO, A.F. and PETCHEY, F. (2013). Stable isotope evidence of Neolithic palaeodiets in the coastal regions of Southern Portugal. *Journal of Island & Coastal Archaeology*. 8: 361-383.

COLONESE, A.C., MANNINO, M.A., MAUER, D.E.B.-Y., FA, D.A., FINLAYSON, J.C., LUBELL, D. and STINER, M.C. (2011), Marine mollusc exploitation in Mediterranean Prehistory: an overview. *Quaternary International*. 239: 86-103.

FERNÁNDEZ, J., SALAZAR, D.C., SUBIRÁ, M.E., ROCA, C., GÓMEZ, M., RICHARDS, M.P. and ESQUEMBRE, M.A. (2013), Late Mesolithic burials at Casa Corona (Villena, Spain): direct radiocarbon and palaeodietary evidence of the last forager populations in Eastern Iberia. *Journal of Archaeological Science*. 40: 671-680.

GARCÍA, E., RICHARDS, M.P. e SUBIRÀ, M.E. (2006), Palaeodiets of humans and fauna at the Spanish Mesolithic site of El Collado. *Current Anthropology*. 47(3): 549-555.

GUTIÉRREZ-ZUGASTI, I., ANDERSEN, S.H., ARAÚJO, A.C., DUPONT, C., MILNER, N. and SOARES, A.M. (2011), Shell midden research in Atlantic Europe: state of the art, research problems and perspectives for the future. *Quaternary International*. 239: 70-85.

LEONARDI, M., GERBAULT, P., THOMAS, M.G. and BURGER, J. (2012), The evolution of lactase persistence in Europe. A synthesis of archaeological and genetic evidence. *International Dairy Journal*. 22: 88-97.

MANNINO, M.A., THOMAS, K.D., LENG, M.J., DI SALVIO, R. and RICHARDS, M.P. (2011), Stuck to the shore? Investigating prehistoric hunter-gatherer subsistence, mobility and territoriality in a Mediterranean coastal landscape through isotope analyses on marine mollusc shell carbonates and human bone collagen. *Quaternary International*. 244: 88-104.

MANNINO, M.A., CATALAMO, G., MANNINO, G., DI SALVIO, R., SCHIMMENTI, V., LALUEZA-FOX, C., MESSINA, A., PETRUSO, D., CARAMELLI, D, RICHARDS, M.P. and SINEO, L. (2012), Origin and diet of the Prehistoric hunter-gatherers on the Mediterranean island of Favignana (Ègadi Islands, Sicily). *PlosOne*. 7(11): 1-12.

MARINVAL, P. (1999), A carpological approach to the neolithization of Southern France. In: P.C. Anderson (ed.), *Prehistory of agriculture. New experimental and ethnographic approaches*. Los Angeles, University of California, pp. 173-179.

RICHARDS, M.P. (2002), A brief review of the archaeological evidence for Palaeolithic and Neolithic subsistence. *European Journal of Clinical Nutrition*. 56: 1270-1278.

RICHARDS, M.P. and TRINKAUS, E. (2009), Isotopic evidence for the diets of European Neanderthals and early modern humans. *Proceedings of the National Academy of Sciences*. 106(38): 16034-16039.

VIGNE, J.-D. (2005), Maîtrise et usages de l'élevage et des animaux domestiques au Néolithique: quelques illustrations au Proche-Orient et en Europe. In: J. Guilaine (dir.), *Populations néolithiques et environnements*. Paris, Errance. pp.85-116.

ZAPATA, L., PEÑA-CHOCARRO, L., PÉREZ-JORDÁ, G. and STIKA, H.-P. (2004), Early Neolithic agriculture in the Iberian Peninsula. *Journal of World Prehistory*. 18(4): 283-325.

ZEDER, M.A. (2008). Domestication and early agriculture in the Mediterranean basin: origins, diffusion, and impact. *Proceedings of the National Academy of Sciences*. 105: 11597-11604.

ZILHÃO, J. (1993), The spread of agro-pastoral economies across Mediterranean Europe: a view from the Far West. *Journal of Mediterranean Archaeology*. 6(1): 5-63.

ZOHARY, D. and Hopf, M. (2004). *Domestication of plants in the Old World. The origin and spread of cultivated plants in West Asia*, Europe and the Nile Valley. Oxford, Oxford University Press.

# On the trilogy of the Mediterranean diet[1]

JOÃO PEDRO BERNARDES
LUÍS FILIPE OLIVEIRA
Universidade do Algarve

**ABSTRACT** Bread, wine and olive oil are the key elements that constitute the true Mediterranean diet trilogy! It is a trilogy that came to the Algarve in the package of influences from Mediterranean civilizations who, particularly after the 8th century BC, began to reach these shores. They were brought by the Phoenicians, the Greeks and the Carthaginians who, along with the Romans, since the dawn of our era, became part of the cultural matrix of the peoples in the south of the Peninsula until the present day. Having quickly been incorporated into the eating habits of the peninsular peoples with Christianity, which gave pride of place to these three products in the liturgy, wine, olive oil and bread would forever remain core elements of the diet of the Mediterranean peoples. As the essential elements of a Mediterranean culture fully integrated into the Portuguese way of life, they would also be part of the Iberian adventure of expansion, spreading to the four corners of the world, and enabling the Mediterranean diet to be enriched with new products.

**KEY WORDS** Mediterranean history, food trilogy, bread, wine, olive oil.

## THE ACCULTURATION OF MEDITERRANEAN EATING HABITS

*Ex oriente lux* – out of the East, light, as the ancients used to say! Like light, bread, wine and olive oil also come from the East; and, like these foods for the body, the precepts and the foods for the mind also came from the East in the form of faith. The association of food with both the body and the mind is not a mere coincidence, since they merge into each other! The wine, a divine and liberating element since the time of the Greek Dionysus, became the blood of Christ, and the bread his body! From olive oil, lighting is achieved, the light that illuminates the home and shows the path of God. Thus, the food trilogy is closely linked to the Mediterranean Christian matrix on which the pillars of modern Europe rest and of which the History of the Algarve is part.

First, came the Phoenicians, with their writing and trade, then the Greeks with their culture and goods, followed by the Carthaginians, descendants from the former, with their religions and productions. With them, new, typically Mediterranean customs and experiences reached the Algarve, such as urban life, wine, olive oil and the habit of eating bread and fish. This pre-Mediterranean corner in nature became increasingly Mediterranean by adoption, emerging as its cultural extension. The Romans, following those peoples, strengthened this Mediterranean trend. More than the cities in Alentejo, the Algarve bears more resemblances to those in Andalusia, with which it has more affinities and closeness; while the Alentejo lies beyond the difficult Monchique and Caldeirão mountains, the neighbouring Andalusia region is easily reached by sea along the coast of the

Gulf of Cadiz. The induced and introduced eating preferences now became entrenched habits, reflected by a new landscape where vineyards, olive groves and the odd wheat field were major marks of this "Mediterraneanisation". Along the coast, fishing communities settled in any inlet suitable for docking, and prepared fish on the spot in the form of sauces, pastes or salting for export across the *mare nostrum* and beyond.

This Mediterraneanisation was long and gradual, but intensify through Christianity and the Islamic occupation. While the former reached the Algarve by sea, as it settled on both shores of the uniting sea, the proximity of the southern shore favoured the later settlement of communities of a different faith which would dwell in these parts for centuries. Once these were chased away, the sea which previously united both shores, now separated them, dividing, as it does today, two worlds that, like two siblings at loggerheads, share the same cradle. In truth, the Mediterranean is above all a circulation system where people, goods, knowledge and tradition intersect by sea and land. It is, as Fernand Braudel (1985, p. 55) put it, a "moving space" with the full meaning of the expression. It is precisely for this reason, and also for its contrasting physical nature, a vast space for diversity, or rather, for diversities that coexist within its unity (Jabouille, 1996). While difficult to define, Orlando Ribeiro (1987, p. 32) suggested the expression "the climate of the olive tree" as best for an apt definition of the Mediterranean, even if other aspects of its people's collective life are disregarded.

**FIGURE 1** Bust of Dionysus/Bacchus, God of wine, found in the Milreu Roman ruins (Faro).

More than any other in Portuguese territory, the Algarve's Cultural Heritage echoes this past of routes and movements, steeped in multiple histories, like a stage through which play after play passes, leaving behind the sets and props that supported them and brought them to life. Many known archaeological sites, from the cities to the small rural hamlets, well reflect what the Algarve land has to tell about such remote times, its productions and its food cycles (Figure 1). It is a land of diversity and, therefore, a land rich in memories and past experiences which, like an old seadog, has much to recount and offer to those who visit the region.

## BREAD, WINE AND OLIVE OIL AS PILLARS OF THE FOOD CHAIN

After wine and olive oil were introduced into the eating habits of present-day Algarve by Ancient peoples and the eating of bread brought by the Romans became widespread (frequently in the form of porridges), it was Christianity that eventually cemented the diet organised around this trilogy. Indeed, the growing importance of Christianity in the late Roman Empire and, over the following centuries, the adaptation of living habits to the new religion, in which

bread, wine and olive oil played key roles in the liturgy, was instrumental in the definitive status of these foods in production and daily consumption. In the 4th and 5th centuries, the productive structures linked to the manufacture of olive oil and wine still survived, even when the major farming estates and population centres were clearly in decline. When the typically Roman villa-centred farming model was abandoned and somehow replaced with a certain dispersion of the population across rural areas, with precarious and poorer structures and settlements, wine presses were carved out from the rock, often isolated on the landscape. This is common to the whole peninsular territory today (Peña Cervantes, 2010) and is also well documented in the Algarve (Santos, 1971/1972, *passim*), showing that the landscape changed by olive trees and vines during the Roman occupation had come to stay (Bernardes e Oliveira, 2006). Besides its position close to the Mediterranean, there is no doubt that the implementation of these foodstuffs by the peoples of the *mare internum* and the spread of the Christian religion and liturgy after the Romans were instrumental for the former province of Lusitania to acquire – despite its Atlantic location – a full-fledged Mediterranean proclivity.

The settlement of the Germanic peoples clouded these century-old trends. Although they were quite civilised, i.e. well adapted to the way of life (*civilitas*) and the feeding patterns of Roman cities, their eating habits were rather diverse. Instead of bread and vegetables, they were great lovers of meat, milk and cheese. They preferred milk, cider and beer to wine. Also, instead of olive oil, they used lard, pork

**FIGURE 2** Bread, one of the elements in the Mediterranean food trilogy.

fat and butter in their cooking. With greater or lesser detail, it was this image that Roman culture provided the Germanic peoples when it became interested in their customs. For 6th century Latin authors, reality was somewhat different and such dietary savagery was only seen among peoples on the fringes of the civilised world, such as the Laplanders, the Huns and the Scandinavians- of the former, Procopius said that they would not drink wine and drew nothing from the earth, since hunting provided all their food (Montanari, 1994). However, the prestige of meat and the culinary use of lard and pork fat would not disappear from among the peoples who occupied the vari-

ous regions of the Empire. The author of a 6th century dietary treatise (*De observatione ciborum*), written at the Ostrogoth court of Ravenna and dedicated to the King of the Franks, not only considered meat as the main food, not bread any longer, it must be noted, but also praised pork fat as a delicacy among the Franks. Among the Frank aristocracy, meat consumption was, indeed, regarded as a mark of power and vigour, and meat abstinence as a humiliation as serious as surrendering personal weapons to the enemy.

The christianisation of the Germanic peoples changed much of this food pattern. As a religion born and formed in the Mediterranean Basin, Christianity had not only made bread and wine sacred, converted into symbols of Christ and hence indispensable to the miracle of the Eucharist, but had given olive oil pride of place in administering some sacraments and illuminating altars and sacred places. As symbols of the new faith and, therefore, prestigious foods, it is likely that their cultivation and consumption accompanied the spread of Christianity, mainly across the northern regions of Europe where the influence of the Roman civilisation was far less felt. On the other hand, the new religion also brought with it some restrictions with regard to meat consumption. Albeit stricter for those who followed a religious life, like monks, generally renouncing the consumption of meat, they still applied to other believers who were obliged to undergo more or less prolonged fasting and periods of abstinence during the year. It is not easy to assess how widespread the monks' vegetarian diet was, or the extent of their moderation in eating, which replicated, in fact, the Greek-Roman consumption

model. Among aristocrats, used to consuming large quantities of food and drink, like Rabelais' Pantagruel, their influence must have been quite slow, at least until the development of a courtly culture brought about a more moderate consumption pattern. Even without losing the input of meat, the diet, however, tended more to the vegetarian with the growing importance of bread and wine, thanks to increased farmed areas and decreased gaming areas (forests and wasteland) and grazing land. While sharing wine and particularly bread served as a model for alliance and friendship, creating the notions of companionship and companion, olive oil on the other hand had more trouble in dislodging lard and pork fat. More used in lighting (Figures 3 and 4), the recipes recommending its use in 16th century affluent diets were still scarce, according to the Cookbook by Infanta Dona Maria.

In Southern European regions, the turmoil caused by the Germanic peoples were apparently less spectacular or, at least, more short-lived. The Mediterranean character of these regions, associated with a deeper and more lasting Romanisation, had preserved the essentials of the vegetarian diet, which would indeed be strengthened from early on under the rule of Islam, also born in the environment of the Mediterranean civilisation. With Islam, which had banned the culinary use of lard and pork fat, olive oil gained prominence in the kitchen, as in fact the Arab root of the Portuguese word *azeite* confirms. Along with olive oil, the essentials of the populations' diet was composed of bread and wine, sometimes accompanied by fruit and vegetables, the latter usually in the form of soups and stews. In the

FIGURE 3 3rd century Roman lamp (Faro).

FIGURE 4 11th century lamp from the Islamic period (Faro)

mid-10th century, the *Calendar of Cordoba* attests to the widespread cultivation of vines and cereals, on which much of the taxes levied by the Caliphate fell (Bolens, 1994). Cereal farming was practised everywhere, even on less propitious land, and wheat or mixed bread, darker and more common in farmhouses, could make up a meal, although it was also consumed in soups and *açordas*. Vines were also seen around farmhouses or in city suburbs since their cultivation required various kinds of care throughout the year. Like other fruits and, in particular, figs and plums (Torres, 1992), grapes were eaten fresh or as raisins – the origin of the Portuguese word *acepipes* (appetisers) – although many were used for the production of wine. Unlike other regions, Islam in the Peninsula had accepted wine consumption, and proof of its public sale abounds in cities such as Malaga, Cordoba and Seville (Bernardes e Oliveira, 2006). Among the most educated or sophisticated, wine consumption is likely to have been

regarded as a habit of civilised people, all the more so because medical treatises prescribed wine as a spiritual stimulant, effective for the convalescence of the sick and the recovery of the weak.

The diversification of species was the main contribution of the Islamic civilisation to the Mediterranean diet. From the 10th century onwards, but particularly during the next two centuries, when the Toledo and Seville agricultural schools were set up (Bolens, 1994), various new products and crops spread across the Peninsula, mostly from Eastern agriculture and cuisine. In addition to aromatic herbs, sugar and rice, the latter already mentioned in the *Calendar of Cordoba*, or new cereal and fruit tree varieties, various summer and winter vegetable crops were made known (García Sanchez, 1990). Usually equipped with irrigation systems, fed from a river, a well or a fountain, kitchen gardens (or enclosures) that sprang up around towns and cities, were characterised by a very intensive polyculture. Vegetables included broad beans, turnips, carrots, chard and various types of cabbage, but also aubergines and cucumbers, lettuce and runner beans, spinach and artichokes. Such crop diversity enriched the diet, enhancing its vegetarian dimension. As usually happens, these novelties were soon adopted by other peoples, and the admiration of the Christians for the horticultural techniques and expertise of the Muslims is well-known. In the late 14th century, a vegetable garden outside Coimbra had a very similar polyculture (Coelho, 1990), growing cabbage, spinach, turnips and radish, lettuce and carrots, broad beans and aubergines, peas, parsley, garlic and onions.

This was the reality of the Algarve. From the 10th century onwards, its dryland orchards and kitchen gardens were seldom forgotten by Arab geographers. The region, however, sported few bread fields, a circumstance that sometimes led a few patches in vegetable gardens to be set aside for cereals (Magalhães, 1970) or substitutes to be found for bread in short supply, such as figs and carobs. Conversely, vines and olive trees were more important crops all over the land, at least until the tourist boom in the 20th century led to these crops being abandoned. A 16th century priest, Father João de S. José (1577, pp. 115-116), who lived in Tavira and was a keen observer of local customs and people, speaks about this ancient importance of wine and olive oil in the Algarve:

> *"It is true that all the Algarve inhabitants, to make their olive oil and wine, have one or two wooden presses at home, made of two or three thick, heavy planks, put together on some crossbars with their borders or vices, which make up five like this, six spans wide and eight, nine long, like a tray, and they call this a press."* (Figure 5).

## THE GLOBALISATION OF THE MEDITERRANEAN FOOD TRILOGY AND THE ENRICHMENT OF THE MEDITERRANEAN FEEDING PATTERN

The Algarve, Atlantic by position and Mediterranean by tradition, is the land's end for those who sail this vast lake. As any land's end, it contains a mixture of charm, fears, challenges, myths, where the sacralization of nature finds a fertile ground to emerge. While 2000 years ago, Cadiz was the last great port in the Mediterranean,

**FIGURE 5** The "burra" or manual press typical of the Algarve mountains.

the Algarve region was the final land before entering the unfathomable and unchartered immensity of the great Ocean sea. The *promunturium Sacrum*, where the land ends and the sea begins, according to Camões, is the very symbol of this land's end, continuously sacralized and mythically remembered in the context of the Discoveries, a time that gave the world new worlds, where this primarily Mediterranean world projects itself onto those other worlds. Jaime Cortesão (1965, p. 12) said that

*"Until the Renaissance only one civilisation was truly influential or had the purpose of influencing the world: the Mediterranean civilisation. Prometheus' torch was passed on from one era to the next and from hand to hand, but always there, on its fringes. And only at the dawn of this era have our small people and its harsh prophet, reaching out to the end of the world, by the Atlantic, pitting their wits against the grandness of destiny, plucked the torch out of there, out of that Sea, to light with it the whole Earth."*

It was here that the cultural Mediterranean arrived to embrace, with its eating habits, the task of breaking new ground, sailing across the endless Ocean with the tools it invented and the knowledge it developed. The Algarve as the way out of this closed sea, of which it is only a part by vocation, used its Atlantic position to spread to the four corners of the world what the *mare internum* bequeathed it! And bread, wine and olive oil are cornerstones of this legacy.

Yet this Iberian undertaking in the new world took as much as it brought back: on the return of the caravels and the ships, new plants came that completely revolutionised the Mediterranean eating frugality, making it richer. Many, varied new foods arrived, relieving the ghost of famine that always hovered over the poor, fine and stony lands of the Mediterranean Basin. Not all these unknown plants adapted quickly to the old continent. Potatoes (*Solanum tuberosum*) were feared to have harmful and unknown effects, bringing various diseases. From the 16$^{th}$ to the 19$^{th}$ centuries, potatoes served mainly as animal fodder until they were fully accepted at European tables. Their nutritional properties, fundamental to filling the hungry stomachs of

millions of Europeans in the 19th century, associated with their great versatility and soft taste, ensured their rapid expansion until their full dominance in the five continents.

Tomatoes also took their time to succeed. The tomato plant (*Lycopersicon esculentum*), like potatoes, was brought from Central and South America and arrived in Europe in the 16th century. It was not until the 19th century that it became widely known, although it had been accepted and cultivated before in the Mediterranean Basin, particularly in Italy. Having the virtue of being simultaneously a fruit, a vegetable and a seasoning, tomatoes underwent successive improvements and their varieties and sizes were increased. Today it has a prime place in Mediterranean cuisine and it also spread all over the world from Europe.

The Mediterranean vegetable garden also used its scarce water resources to accommodate maize (*Zea mays*), coming from the same source. Its early emergence in Africa fuels the current debate on its true origin, although it cannot be disregarded that European navigators might have left it there as early as the 16th century. Its spread meant a true agricultural revolution in various regions of the planet, having become a staple food for various peoples. In Europe and the Mediterranean, in addition to human consumption, it was and still is widely used in animal fodder. In the old continent, it practically replaced millet, already farmed on the shores of the great sea since the earliest Ancient times.

The American Indian potato, tomato and maize trilogy has to be joined by the common bean (*Phaseolus vulgaris*) whose success in the

Mediterranean vegetable garden overtook other bean species. Well accepted all over the world, this crop accounted for deep changes in agriculture and diet. In the Mediterranean, its importance was and still is such that it basically overthrew the century-old consumption of chick peas and lentils. In the kitchen, beans are often associated with maize and pumpkins, which have a similar geographical origin.

Many other products coming from the new world or the East, such as tea and sweet oranges, arrived in the Mediterranean to revolutionise agricultural practices and eating habits. The old vegetable gardens, combining the climate of the hot Mediterranean seasons and irrigation, henceforth took advantage of these crops. Home food diversified, the cuisine became more refined and recipes more sophisticated, combining products and flavours from the old and the new worlds. From this pre-Mediterranean, located on the Western tip of Iberia, this side of the Pillars of Hercules, the century-old crops and knowledge of the *mare internum* were catapulted into the new world. The backflow brought to this same antechamber of the Mediterranean other knowledge and flavours, other crops, which combined with the meagre local resources to depart again and spread across the world.

## NOTE

[1] Text previously published in Romano, A. (Ed.) (2014), *A dieta mediterrânica em Portugal: cultura, alimentação e saúde*. 1st edition, Ed. Universidade do Algarve, Faro. pp. 140-150. It underwent now some additional developments.

## BIBLIOGRAPHICAL REFERENCES


BERNARDES, J. P. & OLIVEIRA, L. F. (coord. – 2006), *A Vinha e o Vinho no Algarve – o renascer de uma velha tradição*, Porto/Faro: Afrontamento /Comissão de Coordenação e Desenvolvimento do Algarve.

BOLENS, Lucie (1994), *Agrónomos andaluces de la Edad Media,* Granada.

BRAUDEL, Fernand (1987), O *Mediterrâneo – o espaço e a História*, Lisbon, Teorema.

COELHO, Maria Helena (1990), Apontamentos sobre a comida e a bebida do campesinato coimbrão em tempos medievos, in *Homens, Espaços e Poderes. Séculos XI-XVI. I – Notas do Viver Social*, Lisbon, Livros Horizonte, pp. 9-22.

CORTESÃO, Jaime (1965), *Itália Azul*, *Obras completas*, vol. VII, Lisbon.

FERRÃO, José Eduardo Mendes (2005), *A Aventura das Plantas e os Descobrimentos Portugueses*, Lisbon.

GARCÍA SANCHEZ, Expiración (1990), Los cultivos de Al-Andalus y su influencia en la Alimentación, in *Aragon Vive Su Historia: Actas de las II Jornadas Internacionales de Cultura Islamica*, Teruel, pp. 183-192.

JABOUILLE, Victor (1996), *O Mediterrâneo Antigo, Unidade e Diversidade*, Lisbon, ed. Colibri.

*LIVRO DE COZINHA da Infanta D. Maria, códice português I. E. 33. da Biblioteca Nacional de Nápoles*, prólogo, leitura, notas aos textos, glossários e índice de Giacinto Manuppella, Lisbon, INCM, 1986.

MAGALHÃES, Joaquim Romero de (1970), *Para a História do Algarve Económico Durante o Século XVI*, Lisbon, Eds. Cosmos.

MONTANARI, Massimo (1994), *The Culture of Food,* Oxford, Blackwell Publishers.

MOTA, A. Teixeira da & CARREIRA, António (1986), O milho zaburro e o milho maçaroca na Guiné e ilhas de Cabo Verde, *Revista de História Económica e Social*, no. 17, pp. 5-20.

PEÑA CERVANTES, Y. (2010) *Torcularia. La producción de vino y aceite en Hispania*, Tarragona (ICAC – *Documenta*, 14).

RIBEIRO, Orlando (1987), *Mediterrâneo, Ambiente e Tradição*, 2nd ed, Lisbon, Fundação Calouste Gulbenkian.

S. JOSÉ, Frei João de (1983), *Corografia* – Frei João de S. José, *Corografia do Reino do Algarve (1577)* in Guerreiro e Magalhães, *Duas Descrições do Algarve no Século XVI*, Lisbon, 1983, pp. 21-132.

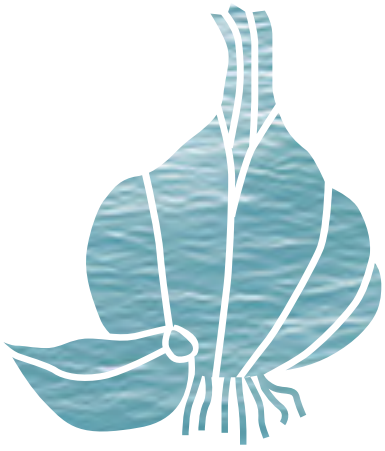
SANTOS, M.L.E.V.A (1971/72), *Arqueologia Romana do Algarve* (2 Vols.), Lisbon: Associação dos Arqueólogos Portugueses.

TORRES, Cláudio (1992), O Garb-Al-Andaluz, in *História de Portugal*, dir. de José Mattoso, Lisbon, Círculo de Leitores, vol. I, pp. 360-416.

# 4

# A habit of eating well

# Mediterranean food identity of Portugal and the Algarve[1]



MARIA MANUEL VALAGÃO
IELT – Instituto de Estudos de Literatura Tradicional – Patrimónios, Artes e Culturas
Faculdade de Ciências Sociais e Humanas
da Universidade Nova de Lisboa

**ABSTRACT** To contextualise the Mediterranean food identity in Portugal, which coexists with an Atlantic identity component that characterises the North of the country, with the common denominator of the Atlantic Ocean, which is an important source of fish, a central feature of the Portuguese food identity. This is our goal, which immediately raises several questions. What is it that identifies Portuguese food with the Mediterranean? Which territories, landscapes, food resources? What history do we share in the to--ing and fro-ing of food products, production techniques, food preservation and culinary procedures? These are the questions we will try to answer, taking the Algarve as our example. Both the local food resources and the know-how associated with them are part of this Mediterranean living heritage, resulting in a cuisine that has wide appeal. These are examples that should be practised and nurtured by all of us, to ensure their protection for future generations. From now on, Portuguese cuisine cannot be seen in isolation but in conjunction with nature and tourism.

**KEY WORDS** Food identity, food resources, know-how, Mediterranean cuisine.

## A MEDITERRANEAN IDENTITY IN THE ATLANTIC

In his masterwork, *Portugal, o Mediterrâneo e o Atlântico* (1987), Orlando Ribeiro differentiated between the soils in our territory as "schist Portugal", "granite Portugal" and "limestone Portugal". This variety is reflected in the agricultural potential of the soils and its food resources, and over the years, one or another has claimed the coexistence of Atlantic and Mediterranean identities[2], a duality that is evident in the country's eating habits. Mainland Portugal is a land with poor agricultural soils, irregular rainfall, a land that is bathed by the Atlantic, beset by cold spells and parched by the hot sun, where frugality reigned for centuries, and which is notable for its various micro-regions, each with its own food specialities. The Portuguese diet is the result of its food resources, of the land, the sea, the rivers and, of course, its culture. The different food crops are structured by these natural factors, with a marked North-South divide. It is a an identity that is markedly Atlantic in the North, and more Mediterranean in the South, always with the common denominator of the ever-present Atlantic Ocean, an important source of fish, one of the central features of Portuguese food identity.

The unique Mediterranean nature of Portugal stems from the geographical determinism of the South as much as the movement of cultures, civilisations, inventions and customs, through trade and migration, that over the centuries have shaped the Mediterranean in general but also the south of the Iberian Peninsula, as a synthesizing sea of experiences and civilisational phenomena, combining the legacies of the Phoenicians, Greeks, Romans, Berbers and Arabs.

These people, whether passing through or staying, not only left their genetic markers, but also brought with them their plant and animal species, farming techniques and culinary knowledge, that have been adapted to the local context. Many elements are similar to those found in other countries of the Mediterranean basin.

This identity is also corroborated and legitimised by the fact that, in general terms, the cultivation of olive trees has been established as a reference to mark the limits of the influence of the Mediterranean. These days, olive trees are grown throughout the country. This is an indication that the Mediterranean diet can be found throughout the country. However, there is a general consensus that the traditional eating habits of the south, that is to say the Alentejo and the Algarve, are more identified with the Mediterranean, which is why, in this text, we will provide detailed examples of the peculiarities of one of these cuisines. In this case, the Algarve. Returning to the eating habits of the Portuguese, certain other typically Mediterranean aspects of food are added, such as: the use of vegetables in general and particularly culinary herbs, the consumption of legumes, dried fruits and fish, all of which point to the characteristics of food consumption nationally as being Mediterranean. Last but not least are the values of conviviality, hospitality and sharing that are part of the Portuguese Mediterranean features and are associated with eating habits "Being at the table together as a family" represents values that are still recognised as having positive connotations nationally, and that also characterise the Mediterranean Diet. This is because, in this classification, the reference to Diet derives from the Greek *diaita*, which means lifestyle,

the relationship between mind, body and environment, but also covers the production, marketing, commensality, ritual and symbolism of food (UNESCO, 2010).

The consumption of cod as part of the national food identity should also be noted. In fact, this fish, popularly known as "the faithful friend", is fished far away in the North Sea and is consumed throughout the country after being salted and dried in the sun. Conservation using the sun and salt is another Mediterranean characteristic that identifies the food practices in Portugal with those of other Mediterranean countries. It should be pointed out that the Portuguese are the largest consumers of cod in the world[3]. The main fats are olive oil and lard, and pork is the most consumed meat. Great culinary versatility is another Mediterranean trait. Although the recipes for each product and each country are limited only by the imagination, the reference book written by Maria de Lourdes Modesto, *Cozinha Tradicional Portuguesa (Traditional Portuguese Cuisine)*, identifies almost 700 different culinary interpretations and about 170 varieties of desserts, many of them of monastic origin.

## SOUPS, STOCKS AND BROTHS[4]

> *"For the Portuguese, a meal without broth or soup, would miss something indispensable at its start"*
> (Olleboma, 1994: 26)41[5]

> *"... And no bland or watery stuff (...), rather rich and substantial preparations, the comfort soup. As Albino Forjaz summarised: 'For some people, soup is an introduction to dinner. In Portugal soup is already part of the dinner.'"*
> (Quitério, 1997:12)

Of markedly Mediterranean characteristics (Turmo, 2012), Portuguese cuisine is revealed in flavours arising from agricultural practices, using a considerable variety of species, food preservation methods based on sun-drying, and lastly, arising from extremely simple culinary procedures: boiling, stewing, braising, grilling... These are joined by convivial eating habits, which identify the country's different regions and are equally typical of Mediterranean practices. From the wide diversity of regional dishes, we could pick out "soups, stocks and broths", all of them watery dishes, as one of the dominating traits of the Portuguese dietary tradition that falls into the Mediterranean category.

According to Albino Forjaz de Sampaio,

> "*We have excellent soups, including chilled soups and refreshing soups. What is gazpacho (...) but a cold soup? There are soups for those who can eat unrestrictedly and soups for those on a diet. Lobster soup for the former and "caldo verde" for the latter. There are soups for the healthy, which they all are, and soups for the sick, such as mutton broth or chicken broth, which, as Garcia de Orta tells us, came from our India. There are soups of meat, fish, seafood, vegetable, soups of anything Prawn soup and egg soup Alentejo fashion; mashed soup and onion soup; cabbage soup seasoned with lard from the North and clam soup from the Algarve; black-eyed bean soup with some good turnip greens or dried chestnut soup Minho fashion; chick pea soup with spinach and mint soup* (2000: 216-217).

From refreshing soups for the summer to comforting soups for the winter, this long quote by Albino Forjaz de Sampaio[6] about the country's most typical soups seems to say it all. Confirming this and in the words of Olleboma in the 1930s, the most typical soups, in other words those with a stronger national expression, but also reflecting regional diversity, are "canja" (chicken broth)[7], "caldo verde" (green broth), "sopa do cozido nacional" (Portuguese boiled meat-based soup) and "fish soups from Portuguese ports". This author tells us that "chicken broths" are "a chicken broth with rice. It is the perfect type of light, hygienic, tasty, perfumed and easily digestible soup, predisposing the stomach well for other foods (...); it should have been the soup served to the Gods of Olympus on feast days"

(1994: 26). Indeed, "canja" is not only the soup and the centrepiece of feasts and celebrations, but also the chosen broth for "cures" for physically weak conditions.

Horticultural products, fruit, olive oil and so much other local produce belong to this living Mediterranean heritage, making our history and the know-how associated with them which undoubtedly represent one of the emblematic aspects of this "cuisine of greens and aromas", this Mediterranean cuisine, whose art and ingenuity are based on simple procedures that "make the most of scarce resources".

They underpin a part of the so-called genuine food traditions of our land which gave rise to the diversity of Portuguese diets, similar in their general Mediterranean features (olive oil, vegetables, fish, fruit, "watery dishes"...) albeit different from each other. Therefore, to know about the traditional food usages, divulging the importance of conservation and enhancement of native species and the regional characteristics that give them their specificity, also means to contribute to ensuring the diversity of Portuguese knowledge and gastronomic identities.

## PROMOTING MEDITERRANEAN FOOD, PROMOTING THE RURAL WORLD

As it happens, these kinds of tradition-based food practices are highly topical and may convey in themselves forms of leisure through gastronomic practice and experimentation. The interest in cooking based on aromas and fresh quality vegetables shows concerns of a

different order on the part of consumers. Besides the pleasure provided by tasty flavours combined with healthy habits, the interest in this type of cooking also reveals a usage of food based on agricultural production methods that are environmentally friendly and contribute to revitalising small-scale farming. In short, they promote practices which are in social harmony with nature. Indeed, the growing interdependence on the quality of produce that is emblematic of local Mediterranean cuisines for the enhancement of rural regions addresses the need for designing multi-purpose and integrated development projects or strategies which optimise the current attractiveness of the landscapes, the lifestyles and the natural resources, i.e. cultural heritage linked to the natural heritage.

Contributing to the heritage of Portuguese Mediterranean cuisines and preserving the production of olive oil, fruit, vegetables and other horticultural produce as distinctive signs of our food history, is to protect the rural world. It means creating devices that not only enable their conservation, but also their utilisation and the generation of economic dynamics in the settlement of rural populations. The reason for this is that the Portuguese regions with Mediterranean agricultural production coincide with the key tourist areas and represent an invaluable potential of natural resources and traditional knowledge associated with farming and food practices that are in dire need of enhancement. The strategy to be adopted must develop around the nature-gastronomy-leisure triangle, which implies a deeper knowledge of the practices and representations inherent in local dietary traditions. This is achieved by innovating in some of

these traditions and adapting them to modern life, in order to ensure the transmission/continuity of know-how and preserve the collective memory of the region. For this purpose, we need to know the basic foundations of the Mediterranean singularity of each cuisine. Let's look at the cuisine of the Algarve.

## RE-ENCOUNTERING THE MEDITERRANEAN IDENTITY IN THE ALGARVE LANDSCAPE

According to Orlando Ribeiro, "the Algarve is the Portuguese Mediterranean", a feature that is not only reflected in the geography in which the influence of nature and culture is instrumental in the development and the life of its population, but also, obviously, in its food practices. To understand how eating habits are organised in the Algarve, it is sufficient to observe its landscape attentively, a landscape made of land and sea, in which its food products are a prime way for the local cuisine to interpret the specificities of the land, which are in turn the result of the symbiosis between natural and cultural heritage through human action in harmony with environmental balance. As such, the landscapes reflect the history and the interaction between Man and Nature with the purpose of meeting his eating needs. What signs and testimonies of this process can be found in the Algarve landscape? Not only those related to the food products from agriculture and fishing, but also those linked to clay, palm, cane and reed, wicker and esparto... all raw materials linked to the arts of pottery, weaving and basketry. Throughout the history of food in the Algarve, the artefacts produced with these re-

sources from the local land and flora have served for the packaging and transportation of the products, and for storing and preserving dry and liquid foodstuffs. As for pottery, its role in the history of food preservation and culinary preparation is well known. Vessels of different shapes and sizes are testimonies to the Arab legacy and the special flavours of the Algarve food, which partly rely on the recipients and the materials in which food was preserved and subsequently cooked.

On the other hand, its Mediterranean specificity is also patent in the shaping of its cultural and agricultural landscape, in the expanse of its olive groves, citrus orchards and so many other fruits, like figs, almonds and carobs which together form the typical dryland orchards of the Algarve. The dry cultivation of cereals and legumes such as broad beans, peas and chick peas, intermingles with fig, almond and carob trees in a balanced way. Small kitchen gardens, close to houses or water points, emerge from the landscape. This happens mainly in the craggy areas, while in the hills cork oak plantations, with their characteristic spontaneous flora and game resources, shape and strengthen this Mediterranean identity. Also, the proximity to the coast, the reach of the tides and the salt marshes, is an instrumental factor in the identity of the Algarve cuisine, which incorporates fish, bivalve shellfish, dry fish (octopus, dogfish, horse mackerel, needle-fish, tuna, with the famous "tuna moxama" (dried tuna fillets)...) in a distinctive way compared to the cuisine of other regions.

## THE ALGARVE CUISINE

The Algarve cuisine is essentially rural in nature, and shows a complementarity with the produce from the sea. This is a cuisine of great simplicity, making it a wise adaptation to natural conditions. The products mainly come from small-scale farming, or occasionally wild resources, mostly used in season, and combined with products from the sea.

The most consumed meat is pork, which is eaten throughout the year, used in small quantities and eaten sparingly. The same frugality applies to the consumption of fish and other types of meat. In other words, their use in small quantities is one of the most striking features of all Mediterranean diets.

Knowing that the cuisine practised today in the Algarve is subject to a great many influences or global trends and the constant factors of social change resulting, amongst others, from demographic movements (the presence of migratory populations), tourism, industry pressures and food trade, it is important to recall the traditionally grown and consumed food.

Amongst the *products of plant origin*, which we refer to generically and without being exhaustive, we have legumes: chick peas; beans; lentils; broad beans; peas and chick vetch. Cereals, derivatives of wheat: bread and pasta; rice and corn flour (maizemeal). In vegetable and fruit growing, the most emblematic feature of the Algarve with regard to these products is the production of "baby vegetables", thanks to its soil and climate conditions. All vegetables are used in season: leafy cabbage; headed cabbage; Savoy cabbage; chard; car-

rots (especially the purple carrot, known as "carrot-sticks", traditional in this area and which is coming back into fashion); broad beans and peas; runner beans; tomato; pepper; cucumber... Pumpkins and sweet potatoes are used virtually throughout the year, although their peak season is late summer, at the time of harvesting. As for fruit, from grapes to plums and pears, apricots to pomegranates and oranges, there is a wide variety of fruit grown in the Algarve, the most prevalent being citrus fruits and figs[8]. The use of herbs such as oregano; mint; catmint; spearmint; rosemary; thyme; parsley; coriander; is what makes this cuisine so distinctive. The main types of olive are: "crushed"; "cut"; "water olives" and "salt olives". We should also mention the added fats used in cooking – olive oil and lard. For seasoning: garlic; onion; vinegar; lemon. Nuts and dried fruits are also important: almonds; walnuts; figs. Figs, in particular have, from time immemorial, been one of the bases of the diet of Mediterranean peoples, and the Algarve is no exception. Another product of which there are still vivid memories of its consumption and culinary uses is the sweet acorn: "boiled acorns", "shrivelled acorns", "roasted acorns" and even toasted and powdered to make coffee...).

For *products of animal origin*, we must mention the huge variety of fish, molluscs and shellfish; and meat: pork, lamb, kid; and harvested products, game, snails and honey. The game dishes prepared are particularly identified with the hilly areas and are some of the *petiscos (*snacks) par excellence at many of the celebratory feasts. The diversity of types of honey are a good illustration of the richness of the local flora.

Finally, there are the *harvested products of plant origin*, so important in the history of the Mediterranean diet: medronhos (fruit of the strawberry tree), wild mushrooms, chard, red dock, thistles, borage, *pílsaro* and many others, including seasoning aromatic herbs.

## THE SEASONS OF THE YEAR

any appreciation of traditional Algarve cuisine must note the association with a notion of cyclical time in which the dishes necessarily reflect the seasonal produce, so it is important to be briefly aware of the products and typical dishes of each season.

*Winter* is the season of leaf vegetables such as cabbage and turnips, which are the basis of the emblematic "jantares de inverno" (winter dinners), also known as "*cozidos*" (stews). These are dishes based on pork, beans and cabbage, such as "bean stew with cabbage"; "boiled cabbage", etc., which use pork meat preserved in salt and subsequently soaked. Winter dishes are also known as "olive oil-based dishes" or "abstinence food" which, as the name implies, are dishes eaten on fasting days during Lent and include no meat in their preparation.

In the *spring*, in culinary terms, all the wonderful splendour of the season is expressed again in dishes prepared with seasonal produce, such as broad beans and peas (in rural Algarve still called "*griséus*"), lamb, kid... The beans and peas are stewed in olive oil and lard with the "boneca de cheiros" (bouquet garni of coriander, mint, sprig of young garlic and/or spring onions) and cloves of garlic. Also characteristic of the spring are the "papas with griséus" (pea mush), or the

"panela podre" (literally translated as rotten pot) which is a "chick pea mush"; "new potatoes with cold sauce and oregano"; "Griséus with conger"; "Broad beans with cuttlefish", etc. The festive dishes based on "young lamb or kid with griséus" are also worth noting..., as well as the Easter cakes. In the *summer*, the stews and *jantares* are fresher. They are made more from vegetables, with less legumes: green beans, pumpkin, ... or "*peras rijas*" (not fully ripe pears instead of carrots); "vinagradas", "arjamolhos" (both are cold soups similar to gazpacho), "gazpacho", are all characteristic of summer, along with salads prepared with the same finely cut ingredients as gazpacho, the well-known "peasant salad". Grilled fish, including species known locally as "blue fish": sardines, horse mackerel, mackerel, anchovies, "tuna belly", etc.

In *autumn*, the *jantares* and stews continue to be eaten with pumpkin and sweet potato. In the kitchen gardens there is an abundance of headed cabbage, Savoy cabbage, turnips and turnip leaves... And the cycle of harvesting and eating the new olives begins with the "crushed olives". It is the time for horseradish to accompany the grilled fish dishes. Autumn is also traditionally the season for grilled fish to be accompanied by sweet potatoes. In fact the sweet potato season is greatly celebrated, with dishes that combine sweet with savoury, a Mediterranean practice very much identified with Algarve cuisine: "carapaus-alimados (marinated mackerel) with sweet potato"; "cuttlefish with sweet potato"; ... the shellfish-based dishes are also characteristic: bean clams, cockles, clams, which are traditionally only eaten in months with an "r". *Tibornas* are also a feature of autumn[9].

Every season of the year has its soups (with soaked bread) and "jantares", one of the dishes that identify the Algarve cuisine. Its attractiveness perhaps lies in the extreme simplicity of the cooking procedures, the use of seasonal produce and a slow cooking process.

This is its "secret"! It's ingredients include a legume, a "sweet vegetable" (sweet potato and/or pumpkin and/or carrots and/or *peras rijas*), "round-potato" and/or rice, or pasta; animal products in small quantities (pork or lamb, bacon and/or sausage). This is one of the dishes that is classified as a "stew".

The Algarve cuisine is also known for its *petiscos* (snacks), whose variety and importance are not limited to the list of "dishes and small dishes" that serve as a pretext to "have a snack". It's important to show how its concept combines the Mediterranean art of conviviality with another art, also very Mediterranean, of "making the most of scarce resources". From snails to flakes of dried tuna fillets, from salted sardines, tuna salad and roasted dried octopus to pig's ear salad... there are many delicacies in the Algarve that attest to the uniqueness of this region in the enjoyment of conviviality and food, while identifying it with Mediterranean practices.

## MEDITERRANEAN PROCEDURES, HERITAGE AND IDENTITY

> *"... the secret of food is to cook it slowly and eat it slower still, in good company..."*
>
> (Maria Gonçalves, Apra-Loulé, 2012)

Let's start with the food preparation techniques of the Algarve cuisine. There are so many similarities with the culinary procedures of Mediterranean cuisine! The simplicity of the techniques is associated with the role played by water, the seasonality of the products and the cooking times. They all provide the subtlety and diversity of the emblematic flavours of Mediterranean cuisine. Boiling, braising, stewing are the culinary preparation techniques common to the Algarve family kitchen. And frying, too! Frying is particularly important for the different types of dough for making the traditional delicacies at Christmas time. In some of these foods, the delicacy of the dough and the judicious use of syrup made from honey and water clearly demonstrate this Mediterranean identity, whose heritage and origins we cannot only attribute to Arab culture. We know for sure that they are identical to those practised in these cultures.

Returning to the food itself, it is essential to emphasise the role of bread in the cuisine of the Algarve. This is not only the staple food of the diet in general, but also the central ingredient in some of the traditional dishes. In the Algarve, the soups (tomato, potato, purslane, cockles, clams, "fish head" ...), the açordas, (garlic, chicken, cockerel, clams, "boiled açorda", "pennyroyal açorda", "chocolate açorda" ...)

are, by definition, very flexible and versatile dishes where creativity and availability of products determines the outcome of the dish.

As for the fats used in culinary preparation, here, like in many Mediterranean areas, the main added fats are olive oil and lard, used in small quantities. Due to their content of monounsaturated fatty acids, the benefits of these fats in nutritional terms are widely known, especially in the case of olive oil, when used untreated. The pleasure of flavours they convey is also a major feature of the dishes from the Algarve cuisine.

The bread and the olive oil are combined, as already mentioned, with herbs as the central seasoning of the Algarve family kitchen. The ancestry and the benefits of their use is widely recounted in literature. Their availability as a spontaneous feature is also ancient, as Strabo[10] had already recognised the regions south of the Tagus as a paradise of fresh herbs.

More examples of dishes which identify this region and the Mediterranean for their typology are the "jantares" (peas, beans ...) mentioned earlier; the "stews" (cabbage, beans with pears ...); the "papas", also known as xarém or xerém (maizemeal), whose variants are limited only by the imagination and the availability of ingredients. Very common are the bean clams, cockles, sardines, ...); different types of bouillabaisses and "alhadas" (garlic stews); ragouts; *cabidelas* (rice with meat cooked in blood); stews... In these unique dishes, the different ingredients are mixed, joined by cooking together and not separately. The resulting sauce, mostly made up of water, as mentioned earlier, includes animal and vegetable fat in small quantities. This fusion of

flavours affords a different outcome from cooking separately, and also preserves the nutritional properties of the different foods. Other emblematic ingredients of the Algarve cuisine and the Mediterranean in general are the abovementioned condiments, garlic and vinegar, well-known for their health benefits and for bringing out the flavours of such dishes as *arjamolhos, vinagradas*, *salada de cenouras com azeitonas*... The vinegary taste, for the aroma it confers on the dishes, results from ancient knowledge that makes wide use of vinegar for preservation purposes (as is the case of *escabeches* (marinated dishes) and for refreshment (cold water soups, today called gazpachos) when used in the right quantities so that its tart flavour is not too intense. Indeed, a "sprinkling of vinegar, often used to finish off broths and stews before turning the heat off, acts as an enhancer of the other flavours. Another seasoning ingredient typical of Mediterranean practices is lemon. As an old Algarve saying goes, "At every house, a lemon tree". In fact, the uses of lemon are manifold. It serves not only to season and flavour, but also to cure. Many fish and meat dishes, as well as *cabidelas, canjas* and others, use lemon as an indispensable ingredient. Lemon-based "home-made medicines" also reflect century-old practices and knowledge from the history and culture of this region.

Some of the sweets and cakes – fig cheeses, almond cakes, syrupy fritters – come from the legacy of the Arabs, adapted to the local context, later joined in the 17$^{th}$ and 18$^{th}$ centuries by convent sweets. This collection of legacies, know-how and resources has resulted in the diversity and refinement of the Algarve sweets whose variety and reputation are widely known.

Evidence of the Mediterranean identity can also be found in the conviviality practices around the cooking area, a prime place for observing, listening and passing on the oral knowledge of a family kitchen. The same applies to the conviviality practices and the attitude to consumption and at the table. One eats with others, with family and friends. One east slowly and leisurely. The results of hard-won skills is revived in this ritual, revealing the way in which the populations has learned to adapt to, and make the most of the natural and food resources in a balanced, healthy and harmonious manner. What better testimony could we have of the timelessness and the cultural legacy of the Romans and the Arabs and to the identity of the Mediterranean art of living?

**ACKNOWLEDGEMENTS**

To Maria Elvira Ferreira and Prof. Nídia Braz for their critical reading of this text.

**NOTES**

1 Text previously published in Romano, A. (Ed.) (2014), *A dieta mediterrânica em Portugal: cultura, alimentação e saúde*, Ed. Universidade do Algarve, Faro. pp. 28-41. .

2 In March 1929, Pequito Rebelo delivered a speech in the Student Union at Coimbra University entitled "The Portuguese Earth", which epitomised the geographic duality of the country using the aphorism: *"Portugal is Mediterranean in nature, Atlantic by position"*.

3 The Portuguese are also the biggest European consumers of rice, with an annual consumption of about 16kg/*per capita*, reflecting a food model with a significant presence of cereal apart from bread.

4 *Canja*, the word for broth, was introduced to the Portuguese lexicon by Garcia de Orta in 1563. It refers to a soup of rice cooked in chicken stock, to which green seasoning such as the traditional sprigs of mint or parsley, can be added.

[5] This was the pseudonym of António Maria de Oliveira Bello (1872-1935), a distinguished industrialist and mineralogist who founded the Portuguese Society of Gastronomy in 1933, and was also the author of the reference work entitled: *Culinária Portuguesa* (Portuguese Cuisine), published posthumously, possibly in 1936, and considered to be the "first systematic collection of Portuguese recipes", according to José Quitério in the Foreword to the reprint of the work in 1994 by Ed. Assírio e Alvim.

[6] Note that the work mentioned above, *Volúpia: A Nona Arte, a Gastronomia*, was published in 1940 and, on the basis of the testimony of a French doctor, Gauducheau, its author was already back then advocating the soup as a national dish.

[7] According to Garcia de Orta (1501-1568), we brought this culinary preparation from India and the root of the word is Indian: kanji. Galopim de Carvalho further develops the origin of this dish, stating that: *"we brought "canja" from the East, from the Konkani, in the 16th century, where the "canja" was made with water and rice, pepper and cumin. At that time, Manuel Godinho Cardoso mentions it in the famous História Trágico- Marítima: "there were no other home-made medicines or cures than bleeding remedies, rice or maize canjas". Between ourselves, we speak of canja when the meat or fish broth only has rice (or alternatively pasta)"* (2001: 243).

[8] Trade in citrus fruit and dried figs was historically, from the 16th to the mid-20th centuries, the basis of the local economy (Magalhães, 1970).

[9] *Tibornas* are associated with celebration and tasting the new olive oil. There is a great diversity of tibornas in the Algarve. From the simplest, consisting of warm toasted bread soaked in the new olive oil, to those flavoured with garlic and/or orange, and to *sweet tibornas*. The latter are an interesting Arab legacy, whose preparation consists of slices of bread toasted on the coals, then lightly soaked in orange juice, sprinkled with olive oil and sweetened with honey or sugar and cinnamon. They are smothered for a few moments before eating

[10] Strabo was the great geographer of the 1st century BC.

## BIBLIOGRAPHICAL REFERENCES


GALOPIM DE CARVALHO, J. (2001), *Com Poejos e Outras Ervas*, Lisboa, Âncora Editora.

MAGALHÃES, J.A.R. (1970), *Para o estudo do Algarve económico durante o século XVI*, Lisboa, Edições Cosmos.

MODESTO, M.L. (1982), *Cozinha tradicional portuguesa*, Lisboa, Editorial Verbo.

OLIVEIRA BELLO, A.M. de (Olleboma). (1994), *Culinária Portuguesa*, Lisboa, Ed. Assírio e Alvim.

QUITÉRIO, J. (1997), *Comer em Português*, Lisboa, Ed. CTT- Correios de Portugal.

RIBEIRO, O. (1987), *Portugal, o Mediterrâneo e o Atlântico*, 5th edition edição, Lisboa, Livraria Sá da Costa.

SAMPAIO, A.F. (2000), *Volúpia, a nona arte*, Lisboa, Editorial Notícias.

TURMO, I. (2012), Régime Méditerranéen. in: Poulain, Jean-Pierre, (Dir.).
*Dictionnaire des Cultures Alimentaires*, Paris, Presses Universitaires de France.

UNESCO (2010), *Convention pour la Sauvegarde du Patrimoine Immatériel*, Comité Intergouvernementale de Sauvegarde du Patrimoine Culturel Immatériel, Cinquième session, Nairobi, Kenya.

VALAGÃO, M.M. (2011), Dieta Mediterrânica, Património Imaterial da Humanidade. *Revista da APH*. 105: 23-27. Lisboa, APH.

VALAGÃO, M.M. (2013), Identidade e Memória Mediterrânica da Alimentação Algarvia. In: *Catálogo da Exposição sobre Dieta Mediterrânica, Património Cultural Milenar*, Tavira, Museu Municipal de Tavira, Palácio da Galeria.

# Cereals in the context of the Mediterranean Diet[1]

CARLA MOITA BRITES
INIAV – Instituto Nacional de Investigação Agrária e Veterinária

**ABSTRACT** Diet is an identity factor shared by countries in the Mediterranean Basin with an identical history and resources. Cereals are a primary element of this diet, forging geographical, historical and nutritional links which are important for the sustainability of food standards and the lifestyle. This paper aims to provide information on the main links associated with grain cultivation in the region, highlight its nutritional role and contribution to sustainability, the results of the research undertaken, the current trends, the social challenges and to envision courses of innovation for the future.

**KEY WORDS** Mediterranean diet, Cereals, History, Nutrition, Sustainability

## GEOGRAPHICAL AND HISTORICAL BOND

Grain farming is shared by the different ethnic groups living in the Mediterranean Basin and it has had an important contribution to the historical and cultural development of these peoples.

The earliest wild species of wheat that emerged in remote times (≈6700 BC) in the Mediterranean originated from the Middle East. The wild species of diploid wheat (*Triticum monoccocum*) and tetraploid wheat (*Triticum diccocum*) are the beginnings of spelt (*Triticum spelta*), an old hexaploid, and also of durum wheat (*Triticum durum*) and common wheat (*Triticum aestivum*), currently the most cultivated tetraploid and hexaploid respectively.

Some evidence found suggests that the wild *Triticum monococcum* species, also known as *einkorn*, grew in the Mediterranean region and were cultivated for the first time in the Neolithic period (5000 BC). Emmer (*T. turgidum* var. *dicoccum*) is a tetraploid, probably one of the first species of *Triticum* to be domesticated at the inception of agriculture, *farris* being the root word for flour which was the basis of Latin peoples. The bread consumed in Roman times by brides and grooms in weddings (*cumfarreatio* ou *nuptiae farreateae*), a major solemn celebration in ancient Rome, was made with *far*. In addition to bread, there were other emmer-based preparations, notably *puls*, a predecessor of polenta, *chidra* (of Greek origin), made with toasted ears, *tragum*, which is a mixture of milk and *athera*, a type of syrup from Egypt (Collar, 2007).

Later, following the Barbarian invasions (4$^{th}$ to 8$^{th}$ centuries), the Suevi introduced rye (*Secale cereal*) in the Northwest of the Iberian

Peninsula (Galicia and Entre Douro e Minho), a region where proso millet or common millet was grown (*Panicum miliaceum*), as well as foxtail millet or Indian millet (*Setaria italica*).

In the 7th-8th centuries, the Arabs introduced rice (*Oryza Sativa*) and in the 8th-9th centuries durum wheat, macaroni wheat and buckwheat, which are still widely grown in the Mediterranean region.

Real corn (*Zea mays***)** of American origin came much later (16th century) and its farming gave rise to an agricultural revolution in the Iberian Peninsula and the emblematic granaries that play a symbolic and aesthetic role in the Portuguese northwest landscape.

Initially, cereals were eaten raw and whole, and were later ground to prepare porridges, biscuits and other mixtures with water that were kneaded and baked on hot stones.

In the Mediterranean region, milling was intensified by the Romans (≈200 BC), following the introduction of stone wheel (millstones) and water mills; intensified by the Arabs later, around 600 AD and later still, in the 12th century, with the introduction of wind mills, which were gradually replaced with steam machines from 1800, and at the end of 19th century with metal rolls which took the place of millstones (Brites and Guerreiro, 2008).

The cooked dough of old times was not leavened; however, the Greeks began using a mixture of hops and fresh must, kept in amphorae from one year to the next, to produce leavened bread, called *zymi* to differentiate it from the unleavened bread *azymi*, and installed the first public ovens which spread across the whole of the Roman Empire.

The great diversity of species (wheat, corn, rye, rice) grown in the region gave rise to a wide variety of home-made and regional recipes – *açordas, migas, bolas, broas* and other types of bread – which became a gastronomic heritage widespread across the Mediterranean Basin. In addition to its gastronomic value, bread is assigned numerous symbolic and mystical meanings related to faith, its incorporation in catholic liturgy (host), and the representation of hard farming work.

The gastronomic heritage, the faith and the religion associated with the preservation of various architectural features in the cereal cycle (granaries, water and wind mills, and communal ovens) are living testimonies to the geographical and historical bond of cereals to the Mediterranean diet.

## NUTRITIONAL BOND

Interest in the Mediterranean diet came about following a comparative study across 7 countries undertaken by Ancel Keys, a North American epidemiologist, who found, in the late 1950s, that Southern European countries had lower mortality rates caused by coronary disease than northern countries and the USA, as a result of the eating habits in Crete and other Mediterranean areas (Keys, 1970; Renaud *et al.*, 1995).

The feeding patterns identified are characterised by a high consumption of unrefined cereals, particularly brown bread, dried fruits, grain legumes, fruit, cheese and yoghurt, predominantly with olive oil as added fat, where animal proteins are low and come from eggs, poultry and some fish to the detriment of red meat.

A few decades on, demographic and socioeconomic changes, increased living standards and the food on offer, and the use of away-from-home meals caused a profound change in traditional eating habits and feeding patterns (Keys, 1995). In 1997, the consumption of bread, legumes and fruit in Portugal was about half of what it was in the Mediterranean area in the 1960s. The declining trend in the consumption of cereals and legumes worsened substantially (16%) between the 1990s and 2008, leading the National Statistical Institute to conclude that the Portuguese diet was moving away from good nutritional practice.

Indeed, from 1990 to 2008, bread consumption per capita decreased by about 33% in Portugal; in 2002 in the Porto region, it was of 114 g/day (survey conducted between 1999 and 2003 by the Medical School of the University of Porto), far below the daily intake recommended by the World Health Organisation, which is of 250-300 g (divided into 4-6 portions/day of 40-60 g) and preferably of whole grains.

Along with the decrease in bread consumption, there was a high increase in caloric intake, from 2700 Kcal in 1996 to 3700 Kcal in 2003. Starch-rich bread and cereal consumption was replaced with other more caloric food, fast-absorption sugars, fats and animal proteins. Consequently, the prevalence of chronic diseases associated with poor eating habits increased. To reverse the departing trend from the feeding patterns of the Mediterranean diet and to prevent the prevalence of chronic diseases, such as colon and gastric cancer, cardiovascular conditions, obesity and diabetes, from spread-

ing, consumption of foods derived from unrefined cereal needs to increase.

In fact, foods derived from cereals (bread, pasta, rice) are the main source of complex carbohydrates (dietary fibre, resistant starch and other polysaccharides), and they should provide 55-60% of the caloric intake, and that is why they are placed at the base of the diet pyramid.

Decreased cereal consumption is probably associated with mistaken beliefs about their influence on obesity, ignorance about their nutritional relevance and possibly some loss of quality of the products available.

In the Mediterranean diet, cereals are essentially consumed as bread (*wheat, mixture, whole, maize and rye bread*) or pasta (*spaghetti, couscous*), with the exception of rice which is consumed whole, and corn flour which is prepared in porridge, maize meal and other culinary preparations.

In addition to the main energy source and to providing complex carbohydrates (dietary fibre), cereals are a source of phytochemicals, vitamins (B complex and E) and minerals which should, naturally, be present in a balanced diet.

The nutritional value reflects the grain chemical composition which depends on the species and the farming environment. Wheat contains specific proteins, gliadins and glutenins that make up gluten, the main factor in the viscoelastic properties of dough. Common wheat has gliadins and glutenins which are not present in durum wheat, although this typically has higher protein content.

Rye is characterised by a high mineral salt and dietary fibre content which contributes to the formation of viscous gels during the digestive process (Brites *et al.*, 2007). Oat and barley contain fibre-specific components, beta-glucans, with a high nutraceutical potential for the prevention of colon cancer, because they contribute to maintain cholesterol levels and to a lower increase in blood glucose (EU Regulation No. 432/2012).

Other species are currently receiving special attention for dietary uses because they are free from gluten proteins, notably corn and rice. Rice is widely used in children's diets for its low allergenicity and its energy value and, moreover, rice bran has specific components with a high antioxidant power, such as phytosterol and γ-oryzanol (Rosell *et al.*, 2007). Yellow-and orange-coloured corn is very rich in unique carotenoids, such as zeaxanthin, which are antioxidants with prevention attributes for degeneration conditions of the macula lutea, and is also rich in tocols (tocopherols and tocotrienols), which in addition to vitamin nutritional activity (Vitamin E), play an important role in stabilising cooking oils (Brites, *et al*. 2007).

Buckwheat (*Fagopyrum esculentum*) does not belong to the gramineae family. It is referred to as a pseudocereal because the grain endosperm is rich in starch and, although its cultivation in the Mediterranean only has some importance in Croatia and France, it has gained a certain relevance because of its nutritional potential. Buckwheat grains have a very peculiar morphology, with an embryo (germ) of considerable size, where, except for the starch, most of its nutrients are located; hence its protein-rich qualities of high bio-

logical value (lysine), essential polyunsaturated fatty acids, dietary fibre, vitamins (B1, C and E γ-tocopherol), minerals and flavonoids (quercetin) of high antioxidant power.

Besides the diversity of species, there is a wide nutritional variation between varieties within any given species, grains and raw materials for the manufacture of flours for processing in food for a balanced diet, in which bread should have a dominant role.

The nutritional value of bread varies according to the raw materials, the recipes and the bread-making process, but it will be all the higher the greater its richness in complex slow-absorption carbohydrates (dietary fibre, resistant starch), vegetable protein, minerals (Ca, K, P, Mg) and vitamins (thiamine, niacin, E and B group) and the lesser the proportion of salt, sugars and fats.

The wide diversity of raw materials, recipes and processes has a major impact on the glycaemic index whose values (41-95) vary from low to high when we compare different types of bread or different cereal-derived foods (Borre, 2001). We often find studies that use white bread instead of glucose as a reference standard food with a high glycaemic index; however, there are also some other types of bread, notably rye and oat whole bread, which have a low glycaemic index.

As regards traditional bread typical of the Mediterranean diet, a number of studies have demonstrated the role of slow-absorption carbohydrates (resistant starch) and short-chain organic acids produced during prolonged sourdough fermentation in diminishing the glycaemic response (Liljeberg, *et al.* 1995; Lappi *et al.*, 2010).

A higher resistant starch content was observed in Portuguese bread (Brites *et al.*, 2011) and a lower glycaemic index in maize bread when compared with highly refined flour wheat bread (bread rolls).

The nutritional bond of cereal derivatives to the Mediterranean diet is founded on the feeling of satiety, decreased glycaemic and cholesterol index, and their consumption is important in regulating the appetite, maintaining the body mass rate and preventing diabetes, cardiovascular and gastrointestinal conditions and cancer.

## SUSTAINABLE BOND

When we compare the situation found in the Mediterranean by Ancel Keys in the 1960s (Keys, 1970) with today's, we see major changes at the level of the food we eat, the modes of production, the points of purchase, the means of transport we use to buy it and the quantitative aspects of our diets. The productivity-focused paradigm prevailing in food production has had a major environmental impact and given rise to health problems associated with feeding regimes and habits which are important to reverse with sustainable diets (Lang, 2013).

Sustainable diets should incorporate inherited habits and consider ecological and public health principles. As consumers become increasingly informed, future choices will be driven by the messages food can convey: identity, origin, authenticity, mode of production, traditions, cultural aspects and nutritional properties.

With regard to cereals, old varieties that keep their original characteristics are making a comeback because consumers value the hid-

den benefits of grain unchanged over time. Some grains have proven nutritional properties and, besides, they are supposed to suit a greener and more sustainable agriculture. Old Portuguese wheat cultivars have the potential to express high protein content and show a wide diversity as regards grain hardness and also rheological parameters (Brites *et al.*, 2000). Other species have a high hardiness, such as *Triticum monococcum* which is grown in poor soils and mountainous areas in France and Morocco, and emmer which is resistant to low temperatures and is grown in mountainous areas in Morocco, Spain (Asturias), Albania, Turkey and Italy, where a Protected Geographical Indication is already in place (Tuscany) for its production, traditionally consumed in grain form for the preparation of soups.

## SOCIAL CHALLENGES AND OPPORTUNITIES FOR THE FUTURE

Recognition by UNESCO of the Mediterranean Diet as Intangible Cultural Heritage of Humanity will undoubtedly bring about linkages and messages that will stimulate cereal consumption; however, it is necessary to overcome a number of myths (pasta, rice, bread are fattening foods; people have always eaten too much bread; cereals are negligible and may be suppressed from our diet, among others) by making known data on the food balance, obesity and diabetes and mobilising people for social challenges around a consensus on benefits.

In addition to the message on a healthy diet with quality, tradition, closeness and sustainability, the implementation of the Mediterranean diet should encompass other food consumption trends,

such as pleasurable multi-sensorial experiences of a comfortable personalised nutrition that meets a given function.

Opportunities for the future should comprise the organoleptic and nutritional quality of cereals and explore consumers' interest in diversity, with menus based on traditional recipes and breads, and also include nutritional and health claims, in accordance with European Regulations 1924/2006 and 432/2012, respectively: – Low energy (<40 kcal/100g), Energy-reduced (-30% of reference calories), Low-fat (<3%), Low-saturated fat (<1.5%), Low sugar (<5%), Low sodium/salt (<0,12%), Source of fibre (>3%), High fibre (>6%), Source of proteins (protein calories >12% total), Source of vitamins B1, PP, riboflavin, Ca, P, Fe and Mg (>15% DDR), cholesterol-free) and Resistant starch, Arabinoxylan produced from wheat endosperm, Beta-glucans, Rye, oat grain, wheat bran fibre, *Monascus purpureus* (red yeast rice).

The long-standing tradition of using corn flour in bread-making and rice in cakes has been explored to develop gluten-free formulations (Brites *et al*., 2010; Brites *et al.*, 2007), as has been the use of indigenous resources, such as carob seed germ, to produce protein-fortified breads (Carbas *et al.*, 2011).

These developments and the ongoing research projects are needed to enhance the role of cereals in a healthy diet and to encourage the comeback of the feeding patterns of the Mediterranean diet, goals which are supported by the Europe 2020 strategy under which the Common Agricultural Policy will be geared towards a sustainable agricultural model, respectful of the environment and focused on consumers and market opportunities.

## NOTE

[1] Version adapted from the article by Brites, C. (2014). Os cereais no contexto da dieta mediterrânica. In: Romano, A. (Ed.), *A dieta mediterrânica em Portugal: cultura, alimentação e saúde*, pp. 268-281, Ed. Universidade do Algarve, Faro.

## BIBLIOGRAPHICAL REFERENCES


BOURRE, J. M. (2001), Le rôle du pain dans la couverture des besoins alimentaires en glucides complexes. *Industries des céréales* 124:30-31

BRITES, C., BAGULHO, A.S., RODRIGUEZ-QUIJANO, M., CARRILLO, J.M. (2000), Effects of HMW glutenin subunits in the quality parameters of Portuguese landraces of *Triticum aestivum ssp. vulgare.* in *Wheat Gluten,* Shewry PR & Tatham AS (eds.), Cambridge, UK, RSC.

BRITES, C., HAROS, M., TRIGO, M.J, ISLAS, R.P. (2007), Maíz. in *De tales harinas, tales panes: granos, harinas y productos de panificación en Iberoamérica,*, Córdoba, Argentina. Hugo Báez, Editor.

BRITES, C. E GUERREIRO, M. (2008), *O pão através dos tempos*. Lisbon, Apenas Livros, Lda..

BRITES, C., IGREJAS, G., LEÓN, A.E. (2007), Centeno y Triticale. in *De tales harinas, tales panes: granos, harinas y productos de panificación en Iberoamérica,* Córdoba, Argentina. Hugo Báez, Editor.

BRITES, C., TRIGO, M.J., FERREIRA, A., GULARTE, M. (2007), Quality improvement of gluten free rice cake. inICC, Proceedings of 1st Latin American Conference ICC, Rosario, Argentina.

BRITES, C., TRIGO, M.J., SANTOS, C., COLLAR, C., ROSELL, C.M (2010), Maize based gluten free bread: influence of processing parameters on sensory and instrumental quality. *Food and Bioprocess Technology* 3(5):707-715.

BRITES, C.M, TRIGO, M.J, CARRAPICO, B. (2011), Maize and resistant starch enriched breads reduce postprandial glycemic responses in rats. *Nutrition Research* 31(4):302-308.

CARBAS, B.F., CORREA, M.J., TRIGO, M.J., FERREIRA, A., FERRERO, C., PUPPO, M.C., BRITES, C. (2011), Utilization of carob germ flour to produce protein fortified breads. Proc. II Conferencia Latinoamericana Cereales, Santiago, Chile.

COLLAR, C. (2007), Cereales Antiguos. in *De tales harinas, tales panes:granos, harinas y productos de panificación en Iberoamérica*, Córdoba, Argentina. Hugo Báez, Editor.

EU, European Union (2006), Regulation No. 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods, *Official Journal of the European Union*, Brussels.

EU, European Union (2012), Regulation No. 432/2012 of the Commission establishing a list of permitted health claims made on foods, other than those referring to the reduction of disease risk and to children's development and health, *Official Journal of the European Union*, Brussels.INE, Instituto Nacional de Estatística. (1999), Balança Alimentar Portuguesa 1990-1997.

INE, Instituto Nacional de Estatística. (2010), Balança Alimentar Portuguesa 2003-2008.

KEYS, A. (1970), Coronary heart disease in 7 countries, *Circulation* 41(suppl):1-211.

KEYS, A. (1995), Mediterranean diet and public health: personal reflections. *Am J Clin Nutr* 61(6, suppl):1321-1323.

LANG, T. (2013), Alimentos Sustentáveis para dietas sustentáveis? O desafio da saúde pública ecológica. in *O Futuro da Alimentação: Ambiente, Saúde e Economia*, Santos, J.L., Carmo, I., Graça, P., Ribeiro, I., Lisbon, Ed. Fundação Calouste Gulbenkian.

LAPPI, J., SELINHEIMO, E., SCHWAB, U., KATINA, K., LEHTINEN, P., MYKKÄNEN, H. (2010), Sourdough fermentation of wholemeal wheat bread increases solubility of arabinoxylan and protein and decreases postprandial glucose and insulin responses. *J Cereal Sci* 51: 152-8.

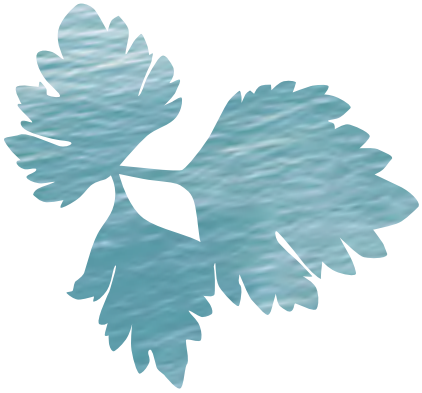
LILJEBERG, H., LONNER, C.H., BJORCK, I. (1995), Sourdough fermentation or addition of organic-acids or corresponding salts to bread improves nutritional properties of starch in healthy humans. *J Nutr* 125:1503-11.

RENAUD, S., DE LORGERIL, M., DELAYE, J., GUIDOLLET, J., JACQUARD, F., MAMELLE, N., MARTIN, J L., MONJAUD, I., SALEN, P., TOUBOL, P. (1995), Cretan Mediterranean diet for prevention of coronary heart-disease *Am J Clin Nutr* 61 (Suppl):1360-1367.

ROSELL, C.M, BRITES, C., PÉREZ, E., GULARTE, M. (2007), Arroz. in *De tales harinas, tales panes: granos, harinas y productos de panificación en Iberoamérica*, Córdoba, Argentina. Hugo Báez, Editor.

# Aromatic and medicinal plants in the Mediterranean Diet: why, when and how?[1]

MARIA ELVIRA FERREIRA
Instituto Nacional de Investigação Agrária e Veterinária, I.P.



**ABSTRACT** Aromatic and medicinal plants (AMP) are a high-value natural resource, so it is important to know, value and use them in a sustained way. The use of aromatic and culinary herbs in the kitchen is recommended for the reduction in salt consumption because they bring out food flavour, making dishes tastier, more attractive and healthier. In the Mediterranean Diet Pyramid, aromatic herbs are part of the group of foods to consume on a daily basis. The demand for AMPs has increased, and it is necessary to protect them and look for sustainable alternative solutions. Most AMPs are easy to grow and their adaptability to a small kitchen garden, a garden or even balcony pots provides a small "garden" with favourite seasonings always at hand. Growing AMPs can also be relaxing, as a stress-relieving break from daily routine at harder times, and is also a fun, educational activity for children. AMPs are also a resource for eco-tourism, since they combine the interest of a biological resource with popular wisdom, and for social and therapeutic horticulture for their morphological, sensory and varied use characteristics.

**KEY WORDS** Cultivation, aromatic herbs, sustainability, enhancement

## INTRODUCTION

The Iberian Peninsula is one of the largest centres of diversity for aromatic and medicinal plants in the world thanks to the continental, Mediterranean and Atlantic influence. Of the 3,800 species identified in the mainland, Azores and Madeira flora, some 500 are aromatic and medicinal (Figueiredo *et al.*, 2007). Strabo, an important geographer of the 1st century BC, recognised this wealth, saying that the regions south of the Tagus were a paradise for fresh herbs (Valagão, 2013).

Man has always used the plants he found, first for food, as a complement to hunting and fishing, then, as he became better acquainted with their characteristics, for curative and aromatic purposes. In the Middle Ages, every convent had a vegetable garden where medicinal plants were located close to the infirmary and aromatic plants close to the kitchen. Gardens were also a place of contemplation and leisure (Mesquita, 2004). The use of aromatic and medicinal plants (AMPs) had its heyday in the 17th century when they joined other plants in the gardens. At this time, the number of AMP species were a measure of a garden's richness (Ferreira and Saraiva, 2006).

There has been a renewal of some traditions, which is partly reflected in the search for natural products and the interest in knowing about the use of aromatic and medicinal plants, not only as food seasoning, but also because of their usefulness in medicine, cosmetics and perfumery, as they are credited with certain specific characteristics for each species.

AMPs are a high-value natural resource, so it is very important to know, value and use them in a sustained way.

Consumers' profiles have changed, and there is a growing interest in a healthier diet, with more natural foods, linked to old dietary traditions.

### WHY?

We are often surprised by sensational news in the media, like: "*Salt kills*" and "*Salt, from seasoning to enemy*", which make us think about salt consumption. The World Health Organisation (WHO) recommends a daily salt intake per capita of 5g, to prevent cardiovascular diseases, estimating that in industrialised countries it is currently of 20g. In Portugal, according to a 2012 study by the Portuguese Association of Hypertension, consumption stood at 10.7g, down from 11.9g in 2006. Although salt consumption has clearly decreased, there is still a long way to go to reach the recommended level.

In order to decrease excessive salt consumption, the Health Authority (DGS) through the National Programme for the Promotion of a Healthy Diet, published the report "Estratégia Nacional para a Redução no Consumo de Sal na Alimentação em Portugal" (National Strategy for the Reduction in Salt Consumption in Food in Portugal). The reason is that the excessive consumption of salt may contribute to high blood pressure, which favours the development of other cardiovascular diseases, such as thrombosis and infarct, increases the risk of stroke, left ventricle hypertrophy and kidney conditions (Graça, 2013).

One of the alternatives to salt in culinary processes is the use of seasoning aromatic herbs[2]. With this in mind, the Health Authority has published an informative document on its website (http://www.dgs.pt/?cr=24482) entitled "Utilização de Ervas Aromáticas & Similares na Alimentação" (Use of Aromatic Herbs and the Like in Food) which includes twenty plants with their therapeutic properties and culinary uses. This document states that aromatic herbs also have beneficial properties for health since some are excellent sources of antioxidants. Aromatic herbs must be added to food at the end of its culinary preparation, since most of their properties are lost through the action of heat. As they bring out food flavour, aromatic herbs make dishes tastier, more attractive and also healthier.

### WHEN?

In the Mediterranean Diet Pyramid, aromatic herbs, together with spices, garlic and onions, are the seasoning used in this type of diet and belong to the group of foods that should be consumed every day (see page 115). With culinary practices which use lesser amounts of salt, its consumption is reduced, while introducing a diversity of aromas and flavours in the diet which, in addition to making dishes colourful, significantly increases the sensory aspects related to eating (Torrado, 2000).

The use of aromatic herbs is part of the Portuguese culture as they have always been used to enrich a diet which was not always rich and used the best the earth had to offer (Valagão, 2011).

Interestingly, in the farce "O Velho da Horta" by Gil Vicente, there is a reference to the girl who goes to the vegetable garden to pick "herbs for the pot" and also "cabbage and herbs" (Fernandes, 2002). In one of the oldest cookbooks known in Portugal, the Cookbook by Infanta Dona Maria from the late 15th century, there are also references to parsley, mint and coriander (Borges *et al*., 1998; Fernandes, 2002).

There are countless Portuguese culinary dishes in which aromatic herbs are an integral part. It is not possible, for example, to imagine an Alentejo bread soup (*açorda)* without coriander or a chicken broth without a sprig of mint, or even a dish of snails without oregano. In these dishes, as in many others in traditional Portuguese cuisine, in the imagination of the consumer, the flavours associated with them and the aromas of the aromatic herbs used in their preparation, are an inseparable part of them.

## HOW?

The demand for aromatic and medicinal plants has increased, and it is necessary to protect them and look for sustainable alternative solutions.

Since the Iberian Peninsula, as mentioned earlier, is one of the largest centres for aromatic and medicinal plants, it is possible to easily collect plants from their natural habitat, provided they are well identified. The same plant can be called by different names and the same name can correspond to more than one plant, depending on the region in the country where they are found. It is also possible to mistake a plant that is toxic to Man with other harmless ones

(Saraiva *et al*., 2010). It is equally important to pay attention because an indiscriminate harvest may lead to the degradation of the ecosystems, the dilapidation of habitats and the extinction of some species which are in short supply.

A solution to prevent indiscriminate harvesting is to grow these plants, i.e. domesticate and farm them. However, there are instances in which the cultivation of certain plants is not cost-effective because there are species that are difficult to domesticate, the quality of spontaneous plants is often regarded as superior to that of cultivated ones, harvesting costs are relatively low, and others are used in extremely small amounts, not justifying their production.

Given these two possibilities for harvesting spontaneous species and domesticating them through cultivation, the situations need to be properly pondered to strike a balance, bearing in mind the system's sustainability.

When opting for harvesting or collecting spontaneous plants, this must be done according to the following recommendations (Valagão, 2010): only collect well identified plants, collect plants from unpolluted locations, collect only as needed, and leave the plant the possibility of reproducing itself. In turn, the domestication of wild plants may contribute to the protection of endangered species, the resettlement of habitats, the safeguard of wildlife resources, and ensuring a sufficient and regular quantity of plants (Bianco *et al.*, 1998; Passarinho and Ferreira, 2010).

In order to produce quality raw materials, it is essential to choose an environmentally- and consumer-friendly method of production,

such as Integrated or Organic Production. Whatever the choice, "Good Production and Harvest Practices" must be followed, covering a number of procedures to be adopted for sustainable production from a technical, social and economic perspective, so as to obtain quality produce with the least impact on the environment. Only in this way is it possible to ensure the food quality and security of the end products.

Ideally, aromatic herbs should always be handy to be used whenever necessary, daring even to experiment with new combinations, making cooking not only an enriching and challenging activity, but also a relaxing one whose success can surprise family and guests. Aromatic herbs are also excellent for decorating dishes, making them more appealing and desirable for the colour they give them.

Most aromatic plants are easy to grow and their adaptability to a small kitchen garden, a garden or even flower boxes and balcony pots, or on the kitchen window sill, provides a small "garden" with favourite seasonings always at hand. Besides this functional advantage, it should be recalled that the proximity and familiarity with this small hub of nature, with varied shapes, colours and aromas, and specific seasonal specificities, could mean an easy, harmonious leisure activity, in which the contemplative and olfactory aspects provided by aromatic plants play a very important role, for their versatile use for floral arrangements of fresh or dried plants.

Table 1 compiles some cultural data on ten APM species used in the Mediterranean Diet, which may help to decide which plants to choose for growing.

Deco-Proteste, together with the National Institute for Agricultural and Veterinarian Research (INIAV) and the Estoril School of Hotel & Catering, has prepared a thematic file on aromatic herbs, the "Guide for Growing and Using", which provides information on twenty one herbs, including how to grow them in a pot, a flower box or a garden, and how to use them in ten healthy, nutritionally balanced, easy to prepare, inexpensive and saltless recipes. A video on how to start a mini-vegetable garden completes this file which may be viewed on the Deco-Proteste website at: http://www.deco.proteste.pt/alimentacao/ produtos-alimentares/dossie/ervas-aromaticas-guia-plantar-usar/1. Within the "month of the heart" which is celebrated every year in May, part of this file was also published in the *Teste Saúde* magazine (103: 21-23), also issued by Deco-Proteste, under the title "Less Salt in the Kitchen".

TABLE 1

**SOME CULTURAL DATA ON TEN SPECIES OF AROMATIC AND MEDICINAL PLANTS**

| PLANT | TYPE OF SOIL | PROPAGATION | WATER REQUIREMENTS | HARVEST |
|---|---|---|---|---|
| Basil | Light, wet and well-drained soils, rich in organic matter pH ≈ 7 | Seed | Water to keep the soil moist at all times | From May to September |
| Coriander | All, with preference for well-drained chalky soils | Seed | Water in dry weather | 40-60 days after sowing |
| Fennel | All pH > 7 | Seed | Water in dry weather | Leaves and stalks from May to July |
| Hart's pennyroyal | Light, not too dry sandy-clay, loamy or alluvial soils pH – 5.5-7.5 | Stem cutting or split stems | When the soil is very dry | Until the flowering stage |
| Lavender | Acid, sandy and well-drained soils | Seed, stem cutting or split stems | Water moderately to keep the soil slightly moist | Leaves – flowering stage Flowers – from late spring and during summer |
| Mint | Light, well-drained, wet sandy-clay, loamy or alluvial soils pH – 5.5-7.5 | Stem cutting or split stems | Water during the whole cycle | Until the flowering stage |

| PLANT | TYPE OF SOIL | PROPAGATION | WATER REQUIREMENTS | HARVEST |
|---|---|---|---|---|
| Oregano | Not very demanding, it grows well in poor but well-drained soils | Seed | Water moderately | Flowering stage |
| Pennyroyal | Light, well-drained, wet sandy-clay, alluvial soils pH – 5.5-7.5 | Stem cutting, stolon or seed | Water during the whole cycle | Leaves – flowering stage Flowery branch-ends – when the flowers have been blooming for 15 days |
| Rosemary | All, with preference for well-drained chalky soils | Rooted cutting or seed | Low | All year round |
| Thyme | Well-drained, medium to coarse soils pH ≈ 7 | Split stems, cutting or seed | Low | Leaves – flowering stage Flowery branch-ends stage |

## THE MEDITERRANEAN DIET AS A LIFESTYLE

The Mediterranean Diet is not just a food model, but a healthier lifestyle, with a strong well-being component, favouring regular physical activity, proper rest and conviviality through table-related sociable practices.

Growing aromatic plants can also be relaxing, as a stress-relieving break from daily routine at harder times, and is also a fun, educational activity for children and a way of making meals less expensive. Consuming the plants produced is the high point of a process that began with the sowing or the shoot planting and should provide pleasure with their aromas, textures and flavours.

AMPs are also an important resource for eco-tourism, a tourist alternative based on sustainable development, since it combines interest in an organic resource and popular wisdom. AMP can be used as an attraction for eco-tourism in the following ways (Meireles, 2007):

- The promotion of walks to identify spontaneous plants, combining the knowledge about ancestral uses of vegetable resources by older people and the keenness and curiosity of younger people for learning more. There is a strong component of knowledge transfer to a target audience of different age groups. An example of this type of activity is the educational walks focusing on the senses, on scented plants and on aromas;

- The creation of didactic gardens or vegetable gardens for tourist and educational purposes which imply an initial investment and permanent upkeep, such as gardens of scents, aromas, and aromatic and medicinal plants;
- The promotion of thematic gastronomic markets and meetings;
- The dissemination of regional and traditional gastronomic products and the presentation of new flavours.

Another sector in which aromatic and medicinal plants are being largely used for their morphological, sensory and multi-purpose characteristics is social and therapeutic horticulture, comprising activities that may take place in farms and various urban agricultural settings, namely within health and rehabilitation institutions, social and gerontological services, and in vocational training, environmental education, personal development and recreational and leisure contexts. This sector covers programmes that contribute to the well-being and improvement of people's quality of life, as regards physical, mental and emotional health, and bring social or community benefits (Mourão, 2013).

AMPs have also been a source of inspiration for poets for their symbolic and incantatory characteristics, as in the popular four-line stanzas from different regions in the country which we reproduce below (Fernandes, 1987; 1988; 1989):

*Rosemary* easily takes root,
*Basil* always grows roots;
Don't brag you're leaving me,
I'm the one who rejected you.
Alentejo

*Parsley* has gone up the hill,
*Mint* stays in the lowlands;
I know not how my love
Doesn't kill but wounds.
Alentejo

*Pennyroyal* is delicate,
Even its leaves make a cross.
Delicate are your eyes,
And even at night they glow.
Alentejo

If *lavender* is sleep,
The sleepy will go to sleep,
I'm not sleepy and won't sleep,
My love, to care for you.
Alentejo

I planted *parsley* by the river,
*Mint* on the other bank,
The way the world is going,
It's no good falling in love.
Algarve

My love and yours,
Are over on that hillside,
Mine is picking roses,
Yours *lemon balm*.
Douro

## ACKNOWLEDGEMENTS

Dr. Maria Manuel Valagão for revising the text.

## NOTES

[1] Text previously published in Romano, A. (Ed.) (2015), *A dieta mediterrânica em Portugal: cultura, alimentação e saúde*, 2nd edition, Ed. Universidade do Algarve, Faro. pp. 204-214.

[2] Aromatic and medicinal plants are called seasoning aromatic herbs when referring to food.

## BIBLIOGRAPHICAL REFERENCES

BIANCO, V.V., SANTAMARIA, P., ELIA, A. (1998), Nutricional value and nitrate contente in edible wild species used in Southern Italy. *Acta Horticulturae*. 467: 71-87.

BORGES, A.E., FERNANDES, I.M., LOPES, A.S. (1998), *Horto medicinal e aromático do Convento da Orada. Guia prático da coleção de espécies presentes nos canteiros do claustro*. Lisbon, INIA, Estação Florestal Nacional.

FERNANDES, I.M. (2002), Alimentos e alimentação no Portugal quinhentista. *Revista de Guimarães*. 112: 125-215.

FERNANDES, R.B. (1987), A Botânica na poesia popular portuguesa. *Anuário da Sociedade Broteriana*. 53: 15-104.

FERNANDES, R.B. (1988), A Botânica na poesia popular portuguesa (continuation). *Anuário da Sociedade Broteriana*. 54: 23-92.

FERNANDES, R.B. (1989), A Botânica na poesia popular portuguesa (conclusion). *Anuário da Sociedade Broteriana*. 55: 19-90.

FERREIRA, M.E., SARAIVA, I. (2006), Plantas da flora local com valor alimentar e aromático. In: Valagão, M.M. (org.), *Tradição e Inovação Alimentar. Dos recursos silvestres aos itinerários turísticos*, pp. 21-43. Lisbon, Ed. Colibri and INIAP.

FIGUEIREDO, A.C., BARROSO, J.G., PEDRO, L.G. (2007), Plantas aromáticas e medicinais. Fatores que afetam a produção. In: Figueiredo, A.C., Barroso, J.G., Pedro, L.G. (eds.), *Potencialidades e aplicações das plantas aromáticas e medicinais. Curso Teórico-Prático*, pp. 1-18, 3rd edition, Lisbon, Faculdade de Ciências da Universidade de Lisboa – Centro de Biotecnologia Vegetal.

GRAÇA, P. (2013), *Relatório 'Estratégia Nacional para a Redução do Consumo de Sal na Alimentação em Portugal'*. Accessed 22 August 2013, Website: http://www.dgs. pt/?cr=24482 of Direção Geral de Saúde, Lisbon.

MEIRELES, C. (2007), O ecoturismo e as plantas aromáticas e medicinais. In: Figueiredo, A.C., Barroso, J.G., Pedro, L.G. (eds.), *Potencialidades e aplicações das plantas aromáticas e medicinais. Curso Teórico-Prático*, pp. 158-162, 3rd edition, Lisbon, Faculdade de Ciências da Universidade de Lisboa – Centro de Biotecnologia Vegetal.

MESQUITA, S. (2004), *Breve história dos Hortos de aromáticas e medicinais em Portugal*, Lisbon, Apenas Livros Lda.

MOURÃO, I. (2013), Horticultura social e terapêutica: contexto. In: Mourão, I.M., Brito, L.M. (eds.), *Horticultura social e terapêutica*. Porto, Ed. Publindústria, pp. 1-18.

PASSARINHO, J.A., FERREIRA, M.E. (2010), Um horto de plantas alimentares e ervas aromáticas condimentares. In: Valagão, M.M. (org.), *Natureza, gastronomia & lazer. Plantas silvestres alimentares e ervas aromáticas condimentares*. Lisbon, Ed. Colibri, pp. 103-127.

SARAIVA, I., FERREIRA, M.E., PASSARINHO, J.A., VALAGÃO, M.M., SILVA, J.G. (2010), Conhecer melhor as nossas plantas. In: Valagão, M.M. (org.), *Natureza, gastronomia & lazer. Plantas silvestres alimentares e ervas aromáticas condimentares.* Lisbon, Ed. Colibri, pp. 129-225.

TORRADO, L. (2000), *A Dieta Mediterrânica*. Lisbon, Ed. Temas e Debates.

VALAGÃO, M.M. (2010), Prática e inovação das tradições gastronómicas. In: Valagão, M.M. (org.), *Natureza, gastronomia & lazer. Plantas silvestres alimentares e ervas aromáticas condimentares*. Lisbon, Ed. Colibri, pp. 227-297.

VALAGÃO, M.M. (2011), Dieta Mediterrânica, património imaterial da Humanidade. *Revista da APH*. 105: 23-27.

VALAGÃO, M.M. (2013), Identidade e memória mediterrânica da alimentação algarvia. In: *Dieta Mediterrânica. Património cultural milenar*, Tavira, Ed. Museu Municipal de Tavira, pp. 43-55.


TOMATE
0,40 €
kg

5

# A healthy life practice

# The agricultural landscape over time and its relationship with the Mediterranean Diet

MARGARIDA COSTA
Direcção Regional de Agricultura e Pescas do Algarve[1]

**ABSTRACT** Josep Pla states that *"cuisine is the landscape put into the pot"* and it was indeed so, since everything that the earth yielded, what was locally grown, found its way into it. Although a section of the more affluent population had access to other foods, the vast majority ate what was produced locally by them or their neighbours, with whom food and services were directly exchanged and, more rarely, bought from third parties. Reality changed and nowadays people eat what is available from the large distribution chains, regardless of its place of origin. A reflection of this new situation is the emergence and expansion of the cultivation of red fruit, avocado and persimmons for the export market and mass distribution, with no correspondence to the eating habits of the local or even national population. In former times, three very different types of landscape could be identified in the Algarve: the coastline, the *barrocal* (crags) and the hills, an expression of different environmental conditions that gave rise to different crops and, consequently, to different products which were incorporated into the diet of the local populations. As the situation changed, the Regional Land Use Plan for the Algarve (PROT – ALGARVE) reviewed the landscape units, considering the coastline and the *barrocal* as a single unit.

**KEY WORDS** Hills, *barrocal*, coastline, landscape units, crops.

## LANDSCAPE UNITS AND MAIN CROPS

There was a marked difference in the Algarve between the various natural landscapes, expressing different environmental conditions, in particular the geological nature of the soils which corresponds to the different features in the terrain. The hills, a range of schist mountains towering to the north, contrast with the limestone shelf – the *barrocal* – followed by a narrow strip of the southern coastal plain. It is in this amphitheatre that crops are distributed according to the soils (Magalhães, 1970).

This author states that

> "*The hills, covered in spontaneous cork oak and holm oak plantations, would open up, here and there, into a more fertile valley, a cereal crop or a vegetable plot, and cattle grazing completed the list of activities of the residents. The barrocal was covered in traditional non-irrigated orchards, composed of olive trees, fig trees, almond trees and carob trees, which would stop as they encountered the first mountain schist which they would not climb up. In the barrocal and the coast, fruit took precedence, helped by the mildness of the craggy hills and the coastal plain. But the free spaces here between the trees – the interspersed fields – were also used to grow bread.*"

In the *barrocal*, the traditional non-irrigated orchard produced almonds (soft and hard shell), figs, carobs and olive oil, all important products in the Algarve economy, which were exported by sea to the traditional North European markets. The Algarve had a shortage of cereals, for which it easily traded fruit in the domestic and foreign markets.

According to Father João de S. José (1577) quoted by Magalhães (1970)

> *"Almonds in the Algarve are a good commodity because they do not require fertiliser, do not rot in the rain, nor are they eaten by worms, and their owners do no more than beat them down when they open up by themselves and shed their shells on the tree. These trees need to be grafted and this makes them grow very large and beautiful. The almond trees are planted in terraces, and beaten with a cane like we do in Portugal to olive trees, and then they are shelled, as they themselves grow shells once ripe, and placed in the sun to dry for two or three days."*

According to the same author

> "*The spontaneous oleaster invites men to make improvements to it. The soil is treated and the trees grow very large, as does the fruit they yield, and this is why conserves are prepared every year in this kingdom which are carried in barrels and casks to India and many other parts of the world."*

Olives were used to produce olive oil in such large quantities that they were exported, as well as being consumed (in brine, crushed or salty) accompanied by bread.

Human occupation of the *barrocal* intensified from the late 16$^{th}$ century (a period of economic depression), providing an increased number of olive trees and carob trees, which found here their land of choice. According to Andrade (1774) quoted by Magalhães (1988)

*"Carob is one of the fruits currently enjoying the best reputation for its consumption in the Cadiz and Seville ports, and it is also used as animal fodder, alternating one ration of carobs and one ration of barley."*

According to this author, the carob tree encountered a fresh development when it was sought after by the Catalan expansion in the second quarter of the 18th century.

Magalhães (1970) states that

*"Along the coast, where irrigation was practised, vegetable gardens sprang up, of intensive polyculture, protected from the north wind and, therefore, from low temperatures at the start of each growing cycle. Horticultural products were grown here: round potatoes, sweet potatoes, onions, garlic, kohlrabi, cucumbers, pumpkins, melons, parsley, carrots, coriander, spinach, together with fruits: figs and grapes, and some loquats, quince, peaches, apricots and pomegranates. However, the fig tree was the most cultivated of all fruit trees."*

Duarte Nunes de Leão, quoted by Magalhães (1970) wrote on this subject

*"The figs of the Algarve kingdom alone are enough to satisfy the world"* and further on, *"the main wealth in the Algarve are fig trees and men devote themselves to them more than anything else because they thrive in any soil and are new every year and more certain than bread".*

Along the coast, fig trees became the main crop, and a small manufacturing industry developed around them, the so-called "fumeiros" (smokehouses) – fig processing warehouses for export, mainly located in Faro, Portimão and Lagos, which used almost exclusively female labour. These expanded considerably in the early 20th century, during World War I, as a result of the high demand for preservable foodstuffs.

The fig preparation process consisted of 5 successive operations: washing, drying, trimming, storing and packaging. Figs for drying were traditionally dried in "almanxares" – permanent or temporary – located near the farmer's house. In more modern smokehouses they were dried in driers. In the "almanxar" figs were dried on wooden trays whose bottom was made of spaced out slats to allow for air circulation, or on cane or fennel mats, woven with twine, on which the figs were distributed in small layers. At nightfall, the trays were stacked on top of each other and covered so as to protect the figs from the night damp and from insects and, at sun rise, they were unstacked and placed once again in the sun. After 2 or 3 days in the sun, the figs were transferred to the shade to complete their drying and avoid the excessive desiccation of the dried fruit. All in all, the drying process would take 4 to 6 days, after which the figs were gathered.

The aim of the trimming operation was to eliminate any larvae that the figs might hold, a key operation to ensure the quality of the dried fruit.

In the storing stage, the figs were placed in "tulhas", in very packed layers, to prevent the circulation of air between them, and the top layer was covered with a cloth or mat. This operation gave

the dried fruit an even colour, softened their skins and avoided any reinfestations.

Packaging was preceded by the picking of figs according to quality ("flor", "meia-flor", "mercador" and "caldeira"), followed by packaging into wooden crates or bundles, sealing of the packaging by the official authorities and shipping.

Vines were also grown on the Algarve coast to produce wine and the various types of raisins ("assaria", the best one, and "bual", for export).

Father João de S. José, quoted by Magalhães (1970):

> *"Vines, no less common in the Algarve than fruit trees, differed from the Portuguese vines, because there was no digging or propping involved, and they were not as beautifully kept or arranged, using as main varieties the Moorish grape, to make wine, and the so-called "salira" grape, called "açaria" in Portugal and dried to make raisins. They are laid down like beds so they can be turned and take the sun on both sides, and they should be covered at night against the dew that harms them and, when ripe, they are harvested and basketed, as we see here."*

A novelty in relation to the 16th century, was sweet and bitter oranges. During the 16th century, there was thorny fruit in the Algarve: lemons and oranges, surely sour, because it was only around 1624 or 1635 that, according to Ferrão (1979) a sweeter orange variety was adapted. Magalhães (1988) says that in the mid-18th century, sweet oranges were already an asset. Their importance is known as early as 1774, especially around Faro, in Alte and Monchique. These

are water demanding trees which, in Campina and Faro came from norias and, in Alte and Monchique was diverted from rivers or taken from springs. A fine production of this citrus fruit was also recorded in Moncarapacho in 1759. This author states that it is quite possible that the expansion of citrus fruits occurred right after the great crisis of the mid-17th century, so much so that by 1706 they were already widely exported. The settlement in the Algarve of foreign merchants who shipped the fruit to Northern Europe, increasing demand, played a decisive role in its expansion.

Another author, Silva Lopes (1841), states that thorny fruits "*Orange and lemon are perhaps (from certain origins) the kingdom's most precious, many being exported on Belgian, Dutch, French and English ships.*"

Primarily a product for export, fruit was a regular feature in the Algarve diet where, in times of famine, it was a substitute for bread, and figs were even called "*the fruit of the people*" (Magalhães, 1970). The records tell us about many other fruits: pears, walnuts, peaches, quince and particularly plums and carobs, although all of these were for local consumption by the people or by livestock (carobs).

Magalhães (1970) reports that the Algarve fruit was exported by sea to Flanders, at least from the late 13th century (this does not mean that it has always been so on a regular basis), England, to where it was already shipped in 1468, Spain, France, Antwerp, Italy and North Africa, countries with which a more or less regular trade was maintained until the mid-16th century.

The major sea trade by merchants took place alongside the small trade by mule-drivers who crossed the hills with their beasts at least once a month looking for wheat and taking figs, grapes, wine and

fish to Alentejo, Campo de Ourique, Setúbal and Lisbon (Magalhães, 1970).

On the coast, there were also vegetable gardens, close to villages, where fresh produce could be quickly consumed. This factor, together with the presence of alluvial soils and the availability of water, contributed to the emergence of irrigated crops, their presence and extension being dependent on the needs of coastal urban populations who could enjoy fresh, seasonal produce.

In irrigated areas, the land was divided into small plots, where various crops were promiscuously associated, including horticultural produce (round potatoes, sweet potatoes, headed cabbage, carrots, onions, beans, cucumbers, pumpkin, corn, etc.), pomicultural produce (figs, some loquats, apricots, pomegranates, plums) and vines, within an intensive crop system. Pomicultural products were scattered around the farming plots, either close to ditches or bordering the various leafy crops.

The coastal plain was an essentially irrigated landscape, although dryland crops could also be found on the same estate, in areas where irrigation was not viable. These were mostly occupied by mixed dryland orchards, very heterogeneous in composition and tree age, dryland tilled crops (broad beans and peas) and cereals grown as interim crops in dryland orchards or intensive crop systems, forming small individual parcels with crop rotation. These crops almost always followed a biennial rotation, where wheat alternated with broad beans or peas (Simões, 1934/5).

The lowlands of the coastal plain offered exceptional conditions for irrigation because of the alluvial soils, the low density of dry-

land orchards, the topography and the ease of well drilling. There was always abundant water to be found in wells, even if its quality was not very good (frequently calcareous and brackish). Wells could be found everywhere, at different depths. Their waters were raised into tanks by means of mechanical devices or water wheels – Moorish norias, with one or two lifting wheels, called simple or double water wheels respectively, originally built with hard wood (carob or almond) and, more recently, in iron, pulled by oxen or other animals.

## DEVELOPMENT OF CROPS OVER TIME

The production of figs remained the basis of the Algarve trade in the 17th and 18th centuries, but vine and olive tree areas widened from the 17th century onwards. According to Magalhães (1988), merchants and businessmen acquired land close to the urban centres where they performed their activities and planted or developed vineyards and olive groves there. From agents they became producers. This meant not only the dominance of the commercial product, but also of supply sources and investment. More, these new landowners tried to develop the products they traded, i.e. wine and olive oil, in their estates. They knew the trading channels and had the capital needed for conversion.

Until the early 20th century, the Algarve was economically dependent on agricultural products (figs, almonds, raisins, wine, olive oil and oranges), directly carried out by producers or more commonly intermediaries, making use of some trading houses with connections to foreign markets (Bívar, 1912). Regular commercial exchanges

determined the perpetuity of the agricultural landscape underlying it, despite a number of adjustments to take account of the most valued products abroad.

During the 20th century, figs lost their prominence, and by the end of the century, their status was all but residual. The low profitability of the crop and its location in fertile, deep coastal land, with excellent conditions for irrigation, made the grubbing up of the trees both justifiable and inevitable. Only a few fig orchards remained in poorer land.

The traditional dryland orchard followed the same trend, with the exception of carob trees which grew during the 20th century, the main carob tree orchards dating almost entirely from this century (having begun to appear in unmixed orchards), when the price of carobs rose because of the use of its fruit in compound feed and the stone in various industries, which stimulated their exports. The lower level of labour in the production costs also played in its favour, making it the principal basis of the net income of the dryland orchard (Cavaco, 1976). The Algarve became the major Portuguese carob producing centre, with Portugal being one of the world's largest producers, along with Spain, Italy and Morocco. Domestic production supplies the home market and exports to the EU, mainly to the United Kingdom and Spain, to the USA and to Far Eastern countries. Currently, the carob tree area has stabilised at around 13,400ha (DRAPALG, 2015).

In the late 20th century, in coastal irrigation areas, the areas reserved for maize and beans for drying were reduced in favour of horticultural crops and citrus fruit orchards. As Portugal joined the

EU in the 1980s, this situation became more acute. The availability of financial incentives to investment and the reconversion of agricultural holdings and the advent of plasticulture led to the expansion of horticultural crops, mostly sheltered horticulture based on raised shelters to produce early vegetables: tomatoes, melons, runner beans, strawberries, peppers and cucumbers. Early maturation of the fruits allowed these to be sold on the domestic market (mainly in Lisbon) before facing competition from other, later, horticultural areas in the country. This situation enhanced early commercial offers, resulting from the combination of the Mediterranean climate and the light soils, which were rarely waterlogged in winter.

During the 1950s and '60s, but more particularly, during the 1980s, we also saw the expansion of the area reserved for citrus crops: oranges, tangelos, tangerines, clementines and lemons, from the coast to the *barrocal*, thanks to a number of factors, notably: the introduction of groundwater abstraction technologies, the availability of financial aid and the increase in purchasing power in Portugal. The growth of the area for citrus crops has continued to our day, although at a slower pace, currently standing at about 14,870ha (DRAPALG, 2015).

In the 20$^{th}$ century, the area of table grapes also widened, especially in the Eastern Algarve, based on the "Cardinal" grape variety, of extremely early growth, and later, the "D. Maria" variety. The area of vineyards for wine also expanded, mainly in the Western Algarve, with production being carried out at the Cooperative Wineries of Lagoa, Lagos, Portimão and Tavira, which coincided with the four Designation of Origin areas. Currently, both the table grape and wine grape

areas are receding, although part of the wine vines are being reconverted, with improved quality in the resulting product.

In the early 21st century, as a result of market globalisation, red fruit (about 182ha), avocado (372ha) and persimmon (130ha) crops emerged and were developed in the region, mainly in coastal areas, for export and the supply of large distribution groups (DRAPALG, 2015). The region has become a globalised producer.

The growing of red fruits (raspberries and strawberries) made an appearance recently and has seen a very significant annual area increase, especially raspberries, owing mainly to the availability of investment funds under the PRODER rural development programme, in partnership with the Driscoll's group, a multinational specialised in small fruit production, which provides new cultivars developed under improvement programmes, and enables the incorporation of new production technologies and access to export markets, notably in Northern Europe, where most of the production (around 95%) is channelled to, and to the existence of the Producers' Organisation (OP) Madrefruta, geared towards the marketing of red fruits.

These factors combine with the good climate conditions to produce in countercycle seasons, in which prices are more advantageous. Raspberry crops focus on two particularly favourable periods: in spring (January to April) and late summer (September to October). Both periods have the advantage of the largest Spanish producing region being unable to compete and the high production costs in Northern Europe. The Algarve, in particular the central coast and the eastern part, has excellent conditions for competing

on the market in these two periods. The growing volume of exports shows that the region is able to produce a differentiated product of quality, so the maintenance of a high level of production quality is fundamental.

The presence of raspberries in the diet of the regional and even national population is negligible (due to lack of eating habits and the high purchase cost), but they are starting to appear in local markets and large supermarkets, which points to a growing trend in consumption. The presence in the diet of strawberries, on the other hand, is stronger, and their consumption higher. Consumers of raspberries and strawberries from the Algarve are to be found in such countries as the Netherlands, the United Kingdom, Belgium, Sweden and Finland and these fruits on these markets are seen as essential in the diet, which is not the case in Portugal. There is no doubt that the small fruit market is expanding. World production and demand have grown, also in Europe, the main outlet for domestic exports. It is expected, therefore, that the Algarve will continue to produce more and more red fruits, notably raspberries, and to export to the Northern European market, where consumers have a high purchasing power and have concerns with the quality of what they eat, and it is foreseeable that the sector will continue to depend almost exclusively on these markets.

The Algarve has the largest avocado orchard area in Portugal, predominantly the Hass variety, adapted to the region's climate and soil conditions (although it is sensitive to cold and frost) and preferred abroad. Its farming targets production in countercycle with the main producing countries in subtropical climates, such as Chile.

In the Algarve, the fruit is harvested from January to April, while in those countries it is harvested from September to November. Spain is the destination of much of the Algarve's produce, from where it is shipped to other European countries, like France, Germany and Russia. This fruit is still little known and consumed in Portugal, although it is in high demand in Nordic countries, with its export window of opportunity in the final months of the farming season, when Spain ends its harvest season.

Another emerging culture in the Algarve is the persimmon, especially the Texas variety. It is a well adapted crop, with good yields and productivity and a fast entry into production (two to three years), for trees trained in the shape of a vase. The Algarve, owing to its location and climate, has the particular advantage of early fruit. However, competition from Spain must always be expected since, in addition to Valencia (the largest producing region), it is expanding to the south, to Huelva and Cartaya, thus reducing the period of early growth of the Algarve fruit. The only way to combat this competition is to produce fruit of excellence with as few losses as possible. Most regional production is traded domestically, in particular in large supermarkets and supply markets.

## CHANGING AGRICULTURAL LANDSCAPE

PROT-ALGARVE (2004) departs from the traditional view of hills, *barrocal* and coastline, considering it out of touch with the evolution of the region and new territorial realities in place, and defines four main landscape units for the Algarve:

A – South Coastline and Barrocal,
B – Hills,
C – Vicentina Coast or Southeast,
D – Lower Guadiana.

Agricultural use on the coast and the *barrocal* is characterised by the increasing competition with other uses owing to the expansion of diffuse urbanisation, mostly as a result of the increase in daily commuting traffic between large and medium-sized cities and their rural surroundings. This traffic covers not only the natural countryside inhabitants, mainly the younger generations, who chose to take up work in the cities and abandon farming, but also the urban residents who chose to live in more rural environments. Simultaneously, we see an increase in the agricultural area used (AAU), a situation encouraged by the financial incentives available under the Rural Development Support Programme, with changes in the crops developed, with an expansion of those activities requiring less labour, such as fruit crops, together with other very intensive activities, such as greenhouse horticulture and red fruit production for export, with high technological specialisation and modernisation, as shown by the significant number of producers with secondary schooling or a higher education degree. Its location and development are the result of functional factors, such as available agricultural land, access roads and the producers' organisation, which provides technical and logistical support, and access to domestic and international markets.

On the other hand, a significant demographic ageing and depopulation can be seen in the hills. Here, the elder populations devote

themselves to agriculture on a part-time basis, but undertake little or no activity outside the farms, living in part on pensions or remittances, and the younger populations devote themselves to farming on a part-time basis, while their main activity is outside agriculture and the Algarve hills. While the agricultural landscape recedes, soil uses expand that require less permanent farming labour and are reflected in the increase of permanent pastureland (associated with husbandry), permanent crops (such as the strawberry tree), forest crops and related activities, such as beekeeping.

## CONCLUSION

In the Algarve, emerging crops (red fruits, persimmons and avocado) are increasingly related to the global market and the demand for markets willing to pay, and less to local consumption habits. Unlike before, when people eat what was locally produced, now people more clearly eat what is available in the major distribution chains, regardless of its origin.

Despite the increase in these crops, there still is space for small-scale farming, often family-run, designed to supply small markets and families, and playing an important role in food security, the preservation of the traditional agricultural landscapes and related knowledge (including food preparation and cooking), the management of natural resources, the preservation of the genetic heritage and the development of territories. We hope we can have a diversified agriculture in the service of a healthy diet, such as that captured by the Mediterranean Diet model.

Together with the cultural change seen in the agricultural landscape, consumption habits are also changing, since instead of fresh produce produced or bought in local markets, it is the products available in medium and large distribution chains, globally produced, that are consumed. Let us hope that, besides global trade, consumers may also buy fresh, seasonal, locally grown produce from local markets for the sake of their diet, health and small-scale farming.

## NOTE

[1] Regional Department of Agriculture and Fisheries of the Algarve.

## BIBLIOGRAPHICAL REFERENCES


BÍVAR, J. (1912). *Monographia da Freguesia da Sé do Concelho de Faro, Distrito de Faro*, Boletim da Direcção Geral da Agricultura, no. 7, Ministério do Fomento, Imprensa da Universidade de Coimbra, Coimbra.

CAVACO, C. (1976). *O Algarve Oriental – As Vilas, o Campo e o Mar*, Vol. I. Gabinete do Planeamento da Região do Algarve, Faro.

CCDR (2004). PROT ALGARVE – Annex II – Characterisation and Diagnostic, Annex M – Soil occupation patterns and built occupation of the rural space. www.prot.ccdr-alg.pt/Storage/pdfs/Volume_II_ANEXO_M.pdf

DRAPALG (2015). *Quadro da Produção Vegetal da DRAPALG* – 2014 provisional data.

FERRÃO, J. (1979). *Acerca da introdução da laranjeira doce em Portugal* – Manuscript by M. José da Silva Thadim. Anais do Instituto Superior de Agronomia, Lisbon.

MAGALHÃES, J. (1970). *Algarve Económico durante o séc. XVI*. Edições Cosmos, Lisbon.

MAGALHÃES, J. (1988). *Algarve Económico: 1600-1773*. Imprensa Universitária no. 69, Editorial Estampa, Lisbon.

MAGALHÃES, J. (1999). A Conjuntura Económica *in O Algarve da antiguidade aos nossos dias – Elementos para a sua história*, Edições Colibri, Lisbon.

SILVA LOPES, J. (1841). *Corografia ou Memória Económica, Estatística e Topográfica do Reino do Algarve*, 1st and 2nd Volume, Typografia da Academia Real das Sciencias de Lisboa, Lisbon.

SIMÕES, A.S. (1934(5)). *Subsídio para o estudo Agronómico da Campina de Faro*, unpublished text, ISA, Lisboa.

# Mediterranean dietary tradition, lifestyles and health[1]

MARIA MANUEL VALAGÃO
IELT – Instituto de Estudos de Literatura Tradicional – Patrimónios, Artes e Culturas
Faculdade de Ciências Sociais e Humanas
da Universidade Nova de Lisboa

**ABSTRACT** How do lifestyles relate to diet and health? To what extent can the practices inherent in the Mediterranean Dietary Tradition contribute to well-being and a greater harmony between the health of the body and nature? To answer these questions, we firstly addressed the development of food consumption from the 1960s onwards and then the relationship between dietary practices and social change. Within the new social organisation of consumption, while traditional practices decline as structural components of the family meal, trends in the opposite direction are also clear. In other words, traditions are showing signs of modernity, which means a trend towards the adoption of more frugal models of consumption, closer to the Mediterranean dietary tradition, and an awareness of the nutritional, environmental and social benefits of these practices.

**KEY WORD** Mediterranean tradition, social mobility, health, food consumption trends, dietary practices, social change.

## FROM THE 1960S ONWARDS

In the 1960s the great internal migratory movements and external migration started in Portugal. These migratory movements had a very marked influence on the feeding habits of the Portuguese population. Until then, the dominant dietary model was characterised by a rural family cuisine, where products of animal origin were few, essentially based on seasonal vegetable produce, an abundance of cereals (bread, pasta, rice), many pulses, fish and meat in small quantities, olive oil, wine and other features that identify this model with the Mediterranean diet (Turmo, 2012). From then on, changes became noticeable, and for this reason current food consumption practices must be interpreted in the light of tertiary concentrations and the emergence of an urban-industrial culture. In this new situation, dietary practices departed from the traditional model, which was characterised by the regular use of horticultural products in general, and green vegetables in particular, and the frequent consumption of pulses, fish and dried fruits, which conferred on Portuguese food consumption the traits of a Mediterranean diet.

This development is shown by the analysis of food availability provided by the Portuguese Food Balances (BAP) of the National Statistical Institute (INE) for the 1960-69 and 1990-1997 periods, and the 2011 Agricultural Statistics for the 1990-2008 period. We can infer from this that the Portuguese diet went from isolation to mainstreaming, i.e. in some cases it even exceeded European averages, as it was incorporated into the western dietary pattern. Between the 1960s, the 1990s and the early 21st century, from a subsistence food

context we moved to a dietary situation similar to that of developed countries. At the same time, the national health situation begam presenting the same problems that are seen in western societies.

Calorie availability shifted from an overall average of some 2,700 calories/person/day in the 1960s, to nearly 3,800 in the 1990s (1997). This value remained high over the following years – 3,895/person/day in 2008 (INE, 2012). Portugal largely exceeded the European average (3,443 calories in 1992-94) and its energy needs. Some forty years ago, these were estimated at 2,800 calories. So, the paradox lies in that, over the period under consideration, it is very likely that the average energy needs of the Portuguese has decreased even more[2]. The decline in manual activity, associated with a more "intellectual" work, improvements in housing and transport conditions and a more sedentary life lower the average caloric needs. Added to all this, there is the fact that the Portuguese population is ageing and physical exercise is limited. From a nutritional point of view, while some of the aspects mentioned here reflect a clearly positive evolution, notably the availability of high biological value proteins, others warrant a reflection, such as the effects of excessive consumption of certain foods – fats and sugar – on health, compounded by a notable reduction in the consumption of pulses and horticultural produce. In other words, increased family incomes and the democratisation of access to foodstuffs have helped overcome some food needs. However, new health problems have stemmed from this availability and diversity of foodstuffs. The increase in total dietary calories associated with the percentage of calories provided by fats, from 25% in 1960-69 to 33%

in 1997, and increased meat consumption, contribute to a new type of disease, the so-called "civilisation-related diseases" or "diseases of affluence": Cardiovascular diseases, obesity, oncological diseases, diabetes and diseases of unknown aetiology.

If we establish a connection between the various factors of change mentioned above, namely between what we eat and health, we see that the Portuguese have adopted a dietary model that favours the emergence of degenerative metabolic diseases, not only because of the consumption of foods high in animal fat, but also an urban and sedentary lifestyle. At the same time, the unavoidable departure from traditional dietary practices could be observed and, specifically, from the Mediterranean dietary model or the main characteristics that are suggested today as a balanced model[3].

## HOW FOOD CONSUMPTION HAS DEVELOPED

Over the last three decades in Portugal, food consumption underwent significant changes towards great diversification of the types of foods consumed. It is obvious that these changes reflect a number of factors in themselves, either of a socioeconomic or a social nature. The emergence of a large quantity of products from different sources, associated with improved living standards, means not only a broader and more diversified consumption, but also the emergence of new daily food practices, new eating venues, whether related to the labour context or to leisure or social activities, which bring about new types of food consumption. Dietary practices today are not exclusively associated with their basic (food) function but also with issues

related to the in-group or to social distinction factors, characterised by concerns with well-being, physical appearance and values such as individual hedonism. In Western Europe, the relationship with work (specifically with regard to the distribution of the working population by activity sectors), with money, with time, as well as the main food consumption trends, has evolved in a similar direction. The pursuit of well-being, independence and leisure are values shared by all. Simultaneously, new types of consumption have arisen, publicised by the media and afforded by increased incomes. These include widespread leisure activities: travel, holidays, sports, which imply a closer attention to the body and the physical appearance. Other reference models emerge related to the body's socio-aesthetics, and it is quite clear that this modelling of behaviour and aspirations has had unavoidable consequences for existing dietary habits, bringing about new eating practices.

In turn, the models publicised by the media urge the pursuit of individual hedonism through all kinds of consumption, in which food plays a key role. The dissemination of the same consumption models reaches everywhere, setting standards for both urban and rural dietary habits, especially among young people.

In other words, ceasing to consume certain traditional foods, notably Mediterranean foods, is inseparable from the set of dietary practices in general which are increasingly related to the new ways of life, to new social uses of time and to new value systems. The social rationale for food consumption differentiation and the way in which certain foods are given priority are associated with their new social

uses, the place, the context and the form of consumption. It seems urgent, within these dynamics, to encourage the discovery of the new flavours of traditional dishes and products. This is in line with the opportunity to value Mediterranean dietary traditions, an integral part of the *Mediterranean Diet* and its intangible heritage.

## DIETARY PRACTICES AND SOCIAL CHANGE

A number of social changes took place from the 1980s all over the country. It is assumed that these changes affected the overall feeding habits, both in rural and urban areas. These social changes are diverse: the "de-ruralisation" of society or the "breakdown of the dominant rurality", the tertiarisation of the economy and society – the rural exodus through emigration or internal migration to the coast and urbanisation. The social and demographic change in jobs (emergence and regrouping of professions and social categories), the increased number of working women and, consequently, a second salary instrumental in raising families' purchasing power, changes to family economic patterns, increased household incomes and purchasing power, increased educational levels for the population in general, the emergence of new values and the urban way of life, all these are associated with the above changes. As António Barreto summarised, referring to the fast-paced new factors in social, demographic and labour mobility of the Portuguese population, "(...) this process unfolded at the same time as the relocation of families to urban, metropolitan or provincial centres accelerated. Over these four decades, a very high proportion of the Portuguese population moved house,


P

and changed their type of housing, their domestic habits and their place of residence." (2000) This geographic mobility and the social mobility of the Portuguese population over the last fifty years has led to deep changes in their lifestyles and, consequently, in their eating habits.

With regard to the development of activity sectors, the most striking fact is the tertiarisation of society and the resulting decline of the primary sector. In Portugal, peasant communities began to weaken in the 1950s and from then on the development of the primary sector was as follows: from 50% in 1950 to 44% in 1960, 32% in 1970, 20% in 1980, 11% in 1990 and 5% in 2001. Currently, the population employed in the primary sector is 5,9% (INE, 2011)[4].

With regard to the tertiary sector, while it occupied 27% of the working population in 1960, by 1991 this value had increased to 50% and in 2011 it occupied 70%. This tertiarisation of society is characterised by a rural exodus, internal migration to the coast and emigration, the emergence of new professions and social categories, the reorganisation of activity and leisure time, the obligation to keep to full-time working hours, the increased level of education of the population, single-parent families, increased purchasing power, increased number of working women, a key factor for higher household incomes, the new socio-aesthetic body models, social hedonism, the needs of "in-groups".

Obviously, this distribution of the working population by sectors of economic activity brings about in itself other social changes, especially as regards the departure from traditional lifestyles typical

of rural areas and traditional dietary practices. This restructuring process of work and leisure time also means lower individual energy needs. In other words, the reduction in primary sector manual activities, associated with more "sedentary" work, better housing conditions and more frequent commuting results in less energy nutritional needs, as mentioned above, which have consequences for health.

## NEW SOCIOLOGICAL CONSUMPTION COMPONENTS

It is important to understand that, from the new sociological consumption components relating food to health and which reflect different dietary practices from those typical of rural areas, one of the most relevant social factors in this change is the inclusion of women in the labour market. Indeed, in less than three decades, the rate of activity of women increased from 15% to 45%, the third highest value among European countries (Barreto, 1996: 41). This indicator, among others, is reflected in less availability of time to devote to domestic activities in general and to supply, conservation and, in particular, culinary preparation practices. i.e. these practices have been curtailed and the nature of food consumption is tailored to the new reality of family life.

A further consequence of the inclusion of women in the labour market is the early socialisation of children, i.e. it is now achieved by other formal educational agents (kindergarten, day-care, school). This new form of socialisation has various effects. Firstly, it implies the organisation of children's meals collectively (in canteens) and/or multiple food intakes during the day, as is so typical of many teen-

agers. This often means de-structured or imbalanced meals from a nutritional perspective. Secondly, it implies that children are asked to decide for themselves what food choices to make in view of the diversity of foods offered by school buffets, bars, canteens, etc. Faced with the panoply of foods available in these places, food choices seem to be guided by the preference for easy-to-eat dishes, some of which come from other cultures. It is under these contexts that the influence of dietary values more insistently conveyed by publicity, schools as agents of socialisation and in-groups is played out. In other words, in this new social reality, the food attributes perceived by young people are largely inherent in the context of socialisation beyond family boundaries. Acculturation thus becomes a natural phenomenon, since such foods do not share the characteristics of those that are, or were, traditional in our culture.

It should also be added that today's way of life, where time is in short supply, does not allow much time for culinary preparation, structured meals or the transmission of knowledge and the sharing of experiences. Additionally, current culinary preparation practices, organised around food that is easy to prepare and eat, do not really encourage the transmission of knowledge, the so-called hand-over of the torch, as happened from mother to daughter with traditional culinary practices.

The pleasure of "sitting around the table", that special moment of socialisation, sharing and fraternisation through food, which encourages communication between family members and the maintenance of certain rituals, while ensuring the continuation of a var-

ied and structured diet, seems to have now shifted to moments of leisure. The pleasure of more elaborate food reappears, of which an expression is traditional food, evoking a slower pace of life: dishes that require longer preparation, around which the joy of being with family and/or friends is built. In today's reality it is in the moments of leisure or at weekends that one can devote time to making traditional dishes, including Mediterranean dishes.

Lifestyles have changed and the new trends in food consumption point to a de-structuring of meals, mostly during the week, which is reflected in a series of food intakes throughout the day. To meet these needs, the nature of the food implies at least an innovative presentation: individual portions, easy to eat, anywhere and at any time. In this sense, traditional Mediterranean dishes and authentic traditional cuisine should be adapted so as to meet the new needs of consumers, while carrying symbolic and cultural dimensions which may be factors of attractiveness and consumer demand as well. Restoring the former relationship between agricultural and gastronomic culture as an aspect of a collective identity which is still preserved in the memory of local populations, is unquestionably a way of enhancing the consumption of Mediterranean products.

## THE MODERNITY OF MEDITERRANEAN DIETARY TRADITIONS

In today's societies, the interaction between global and local contexts occurs through complex and conflicting mechanisms. On the one hand, they necessarily lead to cultural depletion, the spatial and temporal relocation of daily life experiences and the de-structuring

of "cultural and dietary grammars" which provided a framework for food traditions, weakening many of the components of traditional society. On the other, they generate favourable conditions for the glorification of cultural diversity, of which the reinvention of dietary traditions is a prime axis for valuing local cultural memories and identities. As Anthony Giddens puts it, "... in globalizing processes, there is not a one-way movement towards cultural homogeneity. Globalization leads also to an insistence on diversity, a search to recover lost local traditions, and an emphasis on local cultural identity." (1997: 70). It is, therefore, in this sense that the revaluation of Mediterranean dietary traditions should be seen as an expression of modernity, because the revival of this tradition conveys in itself a way to adapt to the present. In other words, while within the new social organisation of consumption, traditional products and practices tend to lose importance as regular, structuring elements of family meals, especially among younger generations, the opposite trends are also clear.

## REVIVING THE MEDITERRANEAN TRADITION

> *"In the post-traditional order, even in the most modernized of societies today, traditions do not wholly disappear; indeed, in some respects, and in some contexts, they flourish."*
> (Giddens *et al.*, 2000: 97).

Mediterranean dietary traditions, like other heritage and cultural resources – gastronomy, landscape and local life – are seen as

the materialisation and recollection of local culture, arising from these ancient flavour- and knowledge-producing territories. Balanced models of health are also associated with traditional Mediterranean practices. But not only. Because the concerns shown by the pursuit of food traditions are many, also connected to land-use management, landscape protection and agricultural diversification (Valagão, 2002). In the imagination of the consumer who looks for a diversity of flavours, the rural space may become a place of reunions with the land, with the natural heritage in general and with specific traditional flavours. As such, rural gastronomic tourism, and its attendant fruition of food traditions, could represent a motive and a driver of these reunions, contributing to a new rationale for the future of the rural world, which lies precisely in the strengthening of the specific identities of local culture, in this case Mediterranean culture. This is about the definition of a future multifunctional project for agriculture and the rural world, which will revolve around gastronomy, tourism and the environment.

It is very interesting that these "innovative solutions" are largely based on the rediscovery of old complementarities between production, food and cultural systems that coexisted in family life and in rural society, and gradually disintegrated because of society's moves towards industrialisation and tertiarisation. The great relevance of traditional gastronomies, of which the Mediterranean diet is an integral part, as a cultural element in tourist motivation and a prime axis for enhancing memories and identities of territories and regions, is unambiguous through the recognition of gastronomy as cultural

heritage. In the Portuguese case, for example, this aspect is clearly expressed in the 2000 legal document[5], which enshrines gastronomy as national cultural heritage. This is coupled with the inclusion of Portugal in the recognition by UNESCO of the Mediterranean Diet as Intangible Cultural Heritage of Humanity[6]. This classification is an important step in the recognition of our way of being and eating. As a whole, these are practices and representations shared with the other Mediterranean peoples, while their cultural dimensions as symbols of the identity of the place should be stressed, and their knowledge, dissemination and enhancement should be called for. One of the reasons for this enhancement is certainly the benefits for individual health, not only through the Mediterranean dietary practice, where sociability around the table is one of the main characteristics, but also a more Mediterranean lifestyle in which the "watchword" is a "slower pace of life". The shift in current lifestyles, dictated by the fight against civilisation-related diseases, has in the Mediterranean dietary traditions one of its best allies. Let us hope that the public authorities succeed in honouring the commitments that this recognition entails to promote the values and culture that are ours.

Because without a balanced health there is no development, by being aware of and practising the values of the Mediterranean dietary traditions, we are laying the bases for innovation and for healthy practices that may be adapted to modern life. As we promote a healthy diet, we are also fostering harmony between personal development and cultural and environmental harmony. And this because the pleasure from food makes us responsible and is inseparable from

an ecological culture and a culture of safety. By disseminating traditional Mediterranean products, we will also be fostering a reflective attitude towards respect for and awareness of how much food connects us to what is elementary, the land and the sea where it comes from, and the sustainability of the relationship between culture, society and the territory.


## ACKNOWLEDGEMENTS

To the Sociologist Joana Gomes da Silva and Prof. Nídia Braz for their critical reading of this text.


## NOTES

1 Text previously published in Romano, A. (Ed.) (2014), *A dieta mediterrânica em Portugal: cultura, alimentação e saúde*, Ed. Universidade do Algarve, Faro. pp. 294-305.

2 It is important not to mistake food availability for dietary needs. In this sense, over the last fifty years, we have moved from a situation of need to a situation of excess.

3 It seems unnecessary to reiterate the characteristics of the Mediterranean dietary tradition, since they have been exhaustively described in the texts on Mediterranean Diet as Intangible Cultural Heritage of Humanity.

4 See INE, *2011 Censuses* (Final results: Portugal, Summary Tables). Taken from INE website on 20.10.2013.

5 See Legal Document *Gastronomia como Património Cultural Nacional (Gastronomy as National Cultural Heritage)*, Cabinet Resolution no. 96/2000 of 26 July, Lisbon, Portugal, 2000.

6 See 8th session of UNESCO intergovernmental committee, held in Baku, the capital of Azerbaijan, on 4 December 2013.

## BIBLIOGRAPHICAL REFERENCES


BARRETO, A. (Org.), (1996), *A Situação Social em Portugal, 1960-1999*, Vol. I, Lisbon, Instituto de Ciências Sociais.

BARRETO, A. (Org.), (2000), *A Situação Social em Portugal, 1960-1999*, Vol. II, Lisbon, Instituto de Ciências Sociais.

*Dictionnaire des Cultures Alimentaires*, Paris, Presses Universitaires de France.

FERRÃO, J. (1996), Três décadas de consolidação do Portugal demográfico. In: Barreto, A. (Org.), (1996), *A Situação Social em Portugal, 1960-1995*, Lisbon, Instituto de Ciências Sociais.

FERREIRA, C. (1999). Reencontros com o mundo rural: dos lazeres turísticos à fixação de «novos e velhos» residentes". In: Carminda Cavaco (Org.) *Desenvolvimento Rural – Desafio e Utopia*, Lisboa, Centro de Estudos Geográficos – Universidade de Lisbon.

FIRMINO-DA-COSTA *et al.* (2000), Classes Sociais na Europa. In: *Sociologia Problemas e Práticas*, no. 34, Lisbon, CIES/ Celta Editora.

GIDDENS, A. (1997), *Para Além da Esquerda e da Direita – O Futuro da Politica Radical*, Oeiras, Celta Editora.

GIDDENS, A. (2001), *Modernidade e Identidade Pessoal*, Oeiras, Celta Editora.

INE (Instituto Nacional de Estatística), (1999), *Balanças Alimentares Portuguesas*, 1960-69, 1990-97, Lisbon, INE.

INE (Instituto Nacional de Estatística), (2006), *Balança Alimentar Portuguesa*, 1990-2003, Lisbon, INE.

INE (Instituto Nacional de Estatística), (2012), *Estatisticas Agricolas*, 2011, Lisbon, INE.

INE (Instituto Nacional de Estatística), (2013), *Censos 2011*, Lisbon, INE.

Legislative Document, (2000), *Gastronomy as a Cultural National Heritage*, Lisbon, Council of Ministers Resolution no. 96/2000, 26 of July.

TURMO, I. (2012), Régime Méditerranéen. In: Poulain, Jean-Pierre, (Dir.).

UNESCO (2010), Convention pour la Sauvegarde du Patrimoine Immatériel, Comité intergouvernemental de Sauvegarde du Patrimoine Culturel Immatériel, Cinquième session, Nairobi, Kenya.

VALAGÃO, M.M. (2002), The reinvention of food traditions. In: Montanari, Armando (Ed) *Food and environment. Geographies of Taste*. Rome, Societá Geografia Italiana.

VALAGÃO, M.M. (2011), Dieta Mediterrânica, Património Imaterial da Humanidade. *Revista da APH*. 105: 23-27. Lisbon, APH.

VALAGÃO, M.M. and SILVA, J.G. da (2012), Le Portugal. In: Poulain, Jean-Pierre, (Dir.). *Dictionnaire des Cultures Alimentaires*, Paris, Presses Universitaires de France.

# Adherence to the Mediterranean Food Pattern: specifics of the Algarve region?

MARIA PALMA MATEUS
Escola Superior de Saúde da Universidade do Algarve

**ABSTRACT** The origin of the Mediterranean Diet lies in the traditions of the countries around the Mediterranean Sea or which were influenced by it, as is the case of Portugal. It represents a complete, nutritionally balanced food model. Adherence to the Mediterranean Food Pattern (MFP) is associated with low morbidity and mortality rates. In nutritional terms, this food pattern is characterised by an abundant consumption of monounsaturated fatty acids, in particular oleic acid, fibres and substances of plant origin with antioxidant properties. The Algarve's traditional cuisine is based on the region's ancestral activities, such as farming and fishing, and features traditional dishes in which bread, legumes, vegetables, fish, aromatic herbs and olive oil are present. A study in the Algarve, involving 276 adolescents between 11 and 16 years of age, who attended formal primary education, showed that 52.5% presented high adherence to the MFP, 42.0% were average adherents and 5.4% showed a low level of adherence. However, a high intake of proteins of animal origin, fats rich in saturated fatty acids and sugar was observed.

**KEY WORDS** Eating habits, adherence to the Mediterranean Diet, culinary, Algarve.

## THE MEDITERRANEAN DIET

The Mediterranean Diet (MD) originates in the countries around the Mediterranean Sea or which were influenced by it (Durão *et al.*, 2008), and became known worldwide following the studies carried out by the researcher Ancel Keys in the 1950s and '60s. Since then, the MD has been recognised by the scientific community as a "way of eating" that promotes health, shares a common food matrix based on the production and consumption of olive oil, cereals and wine, also known as the Mediterranean triad (González Turmo and Mataix Verdú, 2008; Nestle, 1995; Willett *et al.*, 1995).

It represents a complete, nutritionally balanced food model, with countless benefits for health and quality of life (Trichopoulou *et al.*, 2009), from which the highlights are abundant consumption of vegetables fruit, unrefined cereals, dried and fresh legumes, dried and oleaginous fruit ; fresh products , unprocessed and seasonal products; olive oil as the main source of fat; frequent consumption of fish; low to moderate consumption of dairy products, preferably cheese and yoghurt; low, infrequent consumption of red meat; and consumption of wine, preferably at meals (Serra-Majem *et al.*, 2004).

In nutritional terms, this food pattern is characterised by an abundant consumption of monounsaturated fatty acids, in particular oleic acid, fibres and substances of plant origin with a high antioxidant potential (Brill, 2009).

Although this "way of eating" has come about under economically hard conditions and is associated with a frugal, subsistence diet, it meets the current healthy food recommendations. This fact is all

the more obvious in the growing obesity rates that Mediterranean countries have presented in recent years as they westernise their eating habits, leaving behind their "traditional way of eating" (Alexandratos, 2006).

Portugal presents characteristics that have given it a Mediterranean status, including its traditional eating habits (Braga, 2008; Durão *et al.* 2008). However, the Portuguese diet, like what has been observed in other Mediterranean countries, tends to depart from the traditional Mediterranean-type diet (Alexandratos, 2006; Balanza *et al*., 2007; da Silva *et al*., 2009; Naska *et al.*, 2006; Vareiro *et al.*, 2009).

According to the National Statistical Institute (INE), between 2008 and 2012, the availability *per capita* of animal products (meat, fish and eggs), albeit with a marked declining trend compared to the 2003-2008 period, is still high and the same goes for "oils and fats". There is still a shortage of "vegetables", "fruit" and "dried legumes". These results reveal that the Portuguese diet continues to show a food imbalance, with a predominance of proteins of animal origin and an excess of fats.

## FOOD TRADITIONS IN THE ALGARVE

The Algarve culinary is based on the region's ancestral activities, such as farming and fishing, and its Mediterranean roots are evident from its basic elements, with a particular emphasis on bread, legumes, vegetables, fruit, fish, seasoning with aromatic herbs, olive oil and wine (Saramago, 2001; Vila, 2001).

The traditional way of preparing food contributed to the nutritional enrichment of meals. In the Algarve cuisine, "pot food" was frequent, such as stews, casseroles and bouillabaisses, incorporating vegetables and legumes, a practice whose objective was to take full advantage of all available food resources, while allowing better use of all the nutrients present in these foods to be made. Some examples include chick peas with pumpkin and runner beans, beans with cabbage, chick pea stew, sweet potatoes with beans, chick vetch with pork, maize stew, peas with eggs and tomato soup (Saramago, 2001).

The traditional diet of the Algarve people was based on a frugal, simple cuisine that helped maintain the daily energy balance and contrasted with a richer and more elaborate cuisine reserved for feast days.

It is important to preserve and promote the Mediterranean Diet which, besides being a healthy way of eating, reflects the landscapes, the environment, the history, the culture and the lifestyle of the peoples that share it, including the Portuguese and, especially, the Algarvians.

## ADHERENCE TO THE MEDITERRANEAN FOOD PATTERN BY CHILDREN AND ADOLESCENTS IN THE ALGARVE

Adherence to the MFP by children and adolescents is still quite unexplored, although existing studies present the MFP as a health-promoting factor also at these ages. A study undertaken by Spanish researchers covering a sample of 3,166 subjects of both sexes, between


PRODUTO
PREÇO/KG.
2,50€
CATEGORIA
1€
Kilo

6 and 24, showed that the MFP is a nutritionally suitable option for these age groups (Lluis Serra-Majem, Ribas, Garcia, Perez-Rodrigo, & Aranceta, 2003 b).

Although available data on adherence to the MFP by children and adolescents is currently being further explored, studies carried out in Spain and Greece have demonstrated that children and adolescents are moving away from their Mediterranean dietary roots (Kárlen, Lowert, Chatziarsenis, Falth-Magnusson, & Faresjo, 2008; Meropi D Kontogianni, *et al.*, 2008; Lazarou, Panagiotakos, & Matalas, 2009 a; L Serra-Majem, *et al.*, 2004).

With the aim of evaluating adherence to the Mediterranean Food Pattern (MFP) by applying the *Mediterranean Diet Quality Index for children and adolescents* (KIDMED index), a study was recently undertaken in the Algarve covering 276 adolescents between 11 and 16 who attended formal public school education.

The results from an initial analysis are positive, showing the consumption of, at least, one piece of fruit or a fruit juice per day (81.5%); the consumption of fresh or cooked vegetables at least once a day (78.6%); the regular consumption of fish (70.3%); the consumption of cereals or cereal derivatives at breakfast (85.1%); the use of olive oil at home (91.3%) and the habit of taking breakfast (88%), and eating dairy products at this meal (86.2%).

On the negative side, they show a low consumption of a second piece of fruit per day or vegetables more than once a day, at 48.9% and 45.7% respectively. The consumption of oily fruit was notable for its low levels (22.8%).

Adherence to the Mediterranean Food Pattern by young Algarvians, according to the adherence levels established by the KIDMED index, was 52.5% for the "high adherence" level, 42% for "intermediate adherence" and 5.5% for "low adherence".

However, despite 52.5% of young people showing a high level of adherence to the MFP, the energy and nutritional intake of the young people surveyed showed an imbalance, especially with regard to the high intake of proteins, mostly animal proteins, fats, particularly fats with a high content of saturated fatty acids, and sugars. From the analysis of the energy and nutritional intake by age of youth, statistically significant correlations were obtained for sugars and sodium whose consumption increased proportionally to the age of the respondents.

With regard to the level of adherence to the KIDMED and the socio-demographic location of schools (rural and urban areas), a statistically significant relationship was observed between adherence levels and the location of the schools, with city schools showing a higher proportion of "high adherence" than expected.

The level of education of parents, according to the location of the schools, also presented statistically significant differences between city and rural school students, in relation to the mother's level of education. These results point to a possible relationship between the level of education of parents and the adherence to the KIDMED and may partially explain the higher level of adherence in cities.

The Mediterranean Diet is closely linked to our "traditional way of eating" and should be promoted so that the Portuguese, particu-

larly the younger generations, look to their roots afresh and understand that they own a rich dietary tradition that successfully combines a diversity of flavours and aromas that are beneficial for health. For this, it is important to develop studies that provide a better understanding of the eating habits of the Portuguese and the influence of the current socioeconomic organisation on daily life and how it impacts on people's health.

## BIBLIOGRAPHICAL REFERENCES


ALEXANDRATOS, N. (2006). The Mediterranean diet in a world context. *Public Health Nutrition.* 9 (1a): 111-117.

BALANZA, R., GARCIA-LORDA, P., PÉREZ-RODRIGO, C., ARANCETA, J., BONET, MB., SALAS-SALVADOR, J. (2007). Trends in food availability determined by the Food and Agriculture Organization's food balance sheets in Mediterranean Europe in comparison with other European areas. *Public Health Nutrition*. 10(02): 168-176.

BRILL, J. B. (2009). The Mediterranean Diet and Your Health. *American Journal of Lifestyle Medicine*. 3(1): 44-56.

DA SILVA, R., BACH-FAIG, A., RAIDÓ QUINTANA, B., BUCKLAND, G., VAZ DE ALMEIDA, MD., SERRA-MAJEM, L. (2009). Worlwide variation of adherence to the Mediterranean diet, in 1961-1965 and 2000-2003. *Public Health Nutrition*. 12(9A): 1676-1684.

DURÃO, C. R., OLIVEIRA, J. F. S., and DE ALMEIDA, M. D. V. (2008). Portugal e o Padrão Alimentar Mediterrânico. *Revista de Alimentação Humana.* 14(3): 115-128.

GONZÁLEZ TURMO, I., and MATAIX VERDÚ, J. (2008). Alimentación y Dieta Mediterránea. In J. d. Andalucía & C. d. A. y. Pesca (Eds.), Andalucia ante la convocatoria para su salvaguarda como patrimonio cultural inmaterial.

KÁRLEN, J., LOWERT, Y., CHATZIARSENIS, K., FALTH-MAGNUSSON, FARESJO, T. (2008). Are children from Crete abandoning a Mediterranean diet? 8. Accessed 11 July 2012, Website: http://www.rrh.org.au

LAZAROU, C., PANAGIOTAKOS, D., MATALAS, AL. (2009). Level of adherence to the Mediterranean diet among children from Cyprus: the CYKIDS study. *Public Health Nutrition*. 12(07): 991-1000.

NESTLE, M. (1995). Mediterranean diets: historical and research overview. *Am J Clin Nutr.* 61(Suppl): 1313S-1320S.

NASKA, A., FOUSKAKIS, D., OIKONOMOU, E., ALMEIDA, MD., BERG, M., GEDRICH, K., TRICHOPOULOU, A. (2006). Dietary patterns and their sociodemographic determinants in 10 European countries: data from the DAFNE databank. European *Journal of Clinical Nutrition*. 60: 181-190.

SARAMAGO, A. (2001). *Cozinha Algarvia*: Assírio e Alvim.

SERRA-MAJEM, L., RIBAS, L., GARCIA, A., PEREZ-RODRIGO, C., ARANCETA, J. (2003 b). Nutrient adequacy and Mediterranean Diet in Spanish school children and adolescents. *European Journal of Clinical Nutrition*. 57(9): S35.

SERRA-MAJEM, L., TRICHOPOULOU, A., DE LA CRUZ, J. N., CERVERA, P., ÁLVAREZ, A. G., LA VECCHIA, C., *et al.* (2004). Does the definition of the Mediterranean diet need to be updated? *Public Health Nutrition.* 7(07): 927-929.

TRICHOPOULOU, A., BAMIA, C., and TRICHOPOULOS, D. (2009). Anatomy of health effects of Mediterranean diet: Greek EPIC prospective cohort study. *BMJ,* 338.

VALAGÃO, M. M. (2011). Dieta Mediterrânica, Património Imaterial da Humanidade. *Revista da APH.* 105: 23-27.

VILA, J. (2001). *Coisas da Terra e do Mar – Sabores da Cozinha Algarvia*: Oficina do Livro.

WILLETT, W. C., SACKS, F., TRICHOPOULOU, A., DRESCHER, G., FERRO-LUZZI, A., HELSING, E., *et al.* (1995). Mediterranean diet pyramid: a cultural model for healthy eating. *Am J Clin Nutr.* 61 (suppl.): 1402S-14.

6

# A vehicle for sustainability

# The Mediterranean Diet: between tradition and innovation

## An opportunity for the traditional rural space of the Algarve

ANTÓNIO COVAS
MARIA DAS MERCÊS COVAS
Universidade do Algarve

### INTRODUCTION: MEDITERRANEAN DIET, AN OPPORTUNITY FOR THE ALGARVE TRADITIONAL RURAL SPACE

The recent declaration as intangible heritage of humanity attributed by UNESCO to a transnational application submitted by seven countries (Portugal, Spain, Italy, Greece, Cyprus, Croatia and Morocco) in December 2013, could be an excellent opportunity to associate tradition and innovation in the Algarve traditional rural space and thus offer an invaluable contribution to the sustainability of this territory. Naturally, many questions are raised at this stage. Nevertheless, the Mediterranean Diet is clearly a renewed commitment to the future and to quality social production.

## MEDITERRANEAN DIET, THE QUESTIONS ARISING FROM A PROMISE

The Mediterranean Diet is an ancient social and cultural construct. The Mediterranean man has always needed to apply all his resourcefulness and art to fight the shortage of water and food. It was on the basis of this intense relationship and through this learning that the eating habits of the region's different peoples were shaped. The Mediterranean diet legacy is thus the set of practices, knowledge and skills associated with food production, preparation and consumption by Southern populations, and the tools, objects, artefacts and cultural spaces that the communities acknowledge as part of their sociocultural heritage. The Mediterranean diet is, therefore, a food culture adapted to shortage, it is a method of producing and preserving food adjusted to a hostile nature, it is finally a way of living life in conviviality and special sociability.

The concept of intangible heritage of UNESCO is not just a conservationist act. We are talking about an intangible heritage which we could call communal or communitarian, a heritage of everyday life and, as such, a dynamic, creative and ever-changing heritage.

We are in the Algarve, where the application to UNESCO was prepared, in the city of Tavira. In the meantime, 2014 was considered the International Year of Family Farming. The close link between the Mediterranean Diet and the reviving of family farming raises the following questions:

- How can the title "intangible heritage of humanity, coming from an international organisation such as UNESCO, benefit family farming and promote the small-scale local economies in the Algarve?
- How can the specifications and the safeguarding plan of this international certification help modernise and promote family farming and the small-scale local economies in the Algarve without segregating or excluding them?
- What regional and multi-local strategy can be devised to achieve the "great alliance" between food education for health, the development of family farming and inland small-scale local economies, and the promotion of the intangible heritage of the respective cultures?
- How to act in order to avoid further erosion of the food pattern of the Mediterranean diet, to prevent a prestigious international status from being light-heartedly traded for Mediterranean gastronomic festivals, to prevent local economies and family farming from being left to their own devices, to protect the small inland settlements from desertification, and local cultures from further debasement to give way to Mediterranean bad taste and kitsch to show-off to tourists?
- What is our responsibility as Algarve citizens towards this duty, so solemnly invested in us? What will we do with our natural *barrocal* and mountain resources, what will we tell our unemployed youth about the future that awaits them, how will we react to the complaints of those abandoned populations inland, what basic health, food and cultural education do we want to give our primary school children, what tourism do we really want to promote in our villages and inland, what demands will we make from local and regional authorities, if we ourselves have no shared concerns for policy and the common good, taking responsibility for doing it on our own account?

## MEDITERRANEAN DIET, A COMMITMENT TO THE FUTURE AND QUALITY SOCIAL PRODUCTION

Beyond the most utilitarian, productive and commercial aspects, the classification as *intangible heritage of humanity* is, more than anything else, a promise of a future for a region, the Algarve. A kind of *credit on account*, if you like, for what is still to be done in the region, if to this end we follow the set of specifications that come with the classification granted. The Mediterranean Diet is, so to speak, a vertical concept that cuts across the whole region from the intangible heritage as symbolic representation to the tangible heritage as the basis of the Mediterranean diet. It is therefore necessary to understand that these realities are not separate, but rather two sides of the same reality and that preserving the intangible heritage amounts to safeguarding and developing the tangible heritage. The Mediterranean Diet, as the promise of a future, is the cultural and symbolic expression of a delicate balance between nature and human activity sustained by time and trusted by man. This delicate balance is under threat due to worrying events: sprawling construction chaotically dots the territory and degrades the use of the land capital; the power of the real estate capital affects the conservation and multiple use of the natural capital; technical and technological escalation impoverishes the biophysical qualities of ecosystems and the land, while reducing the provision of environmental services in the region. The growing turnover speed of the financial capital ends up on a collision course with the pace of regeneration of biophysical systems. We need to worry more about technological progression because the

planet is in no condition to be indefinitely remade by the rhythms of technology.

Indeed, in the name of progress and technology, what we have is the dissemination of monocultures, biophysical monotony and decreased social diversity, all different facets of the same problem. The Mediterranean Diet is in urgent need of a preservation plan that protects it from short term "moral risks" as there are always those who are ready to sacrifice it on the altar of hypervelocity and indiscriminate consumption.

In this context, the Mediterranean Diet can be easy prey for the policy of speed and replacement technologies, a refuge for the more enlightened or a lifestyle and food pattern generally accepted by the population. Within this fight for survival, the Mediterranean diet could already, unwittingly, be on a collision course with regional and international capitalism. It is a sort of counter-culture and counter-rationality waging an unequal struggle with the "establishment" which meanwhile takes the opportunity to publicly praise a "new promise" of regional and rural development.

The granting of this international classification by UNESCO is, therefore, a very interesting challenge for "local political sociology" and, in this sense, no-one would approve that the Mediterranean Diet be known as the history of a take-over and a huge deception, however successful and brilliant the operation might be. So the possibility everyone is waiting for remains, i.e. the Mediterranean Diet as the eloquent example of quality social production that improves the material well-being of the local populations and enhances the

tangible heritage on which it rests, thus justifying the international status received. This is the challenge we are facing, a challenge for a new territorial intelligence.

While the Mediterranean Diet, for the potential value it contains, is a promise of future, our starting question is: how to convert a "positive expectation", the Mediterranean Diet, into a successful participatory process and a quality social production and how to effect this conversion through a value chain that links an *intangible heritage of humanity* to a regional tangible heritage in a way that significantly changes the economic, social and business structure of a community or region?

We know that quality production does not exist in a vacuum and two approaches are possible. Firstly, the market "knows" better than anyone else what the client needs. Market and client, two abstract notions in the service of an "ideology of quality". Secondly, quality is an attribute that can be negotiated through successive "agreements and/or rules of procedure", from production to consumption and within an interactive and bargaining process that involves various actors with different strategies. The goal is that quality becomes the outcome of a social consensus and a learning process with political and organisational implications, in the sense that various alternative methods of "socially producing quality" exist and are recognised.

We know that the market economy itself uses countless conventions or rules, from technical standards to trademarks and certifications, not to mention the pricing mechanism itself. We also know that these conventional rules and procedures are no longer enough to

ensure quality and reassure consumers. The interesting question that arises is: can the Mediterranean Diet be at the origin of an "emerging conventional economy", an "innovative local productive system", a "high added value networked territory" based on proximity markets and short circuits, but also on interpersonal relationships and the values and principles of a supportive and collaborative economy?

Production and consumption are always localised and operated by concrete producers and consumers somewhere, which enables conventions and procedures to be established whenever quality is regarded as a shared "common good" based on mutual trust. In this sense, "quality social production" may be used to promote a rural development strategy, made up of a multiplicity of farming practices based on traditional products of high biological, ecosystemic and landscape value. Obviously, the means available locally are taken into account, such as geographical indications, designations, collective marks, seals, labels, both of process and quality, which can also be negotiated and agreed.

In short, a "quality social production" and, more generally, "the distinctive territorial signs" can and should provide an excellent pretext not just to review agricultural and rural development, research and extension programmes, but mainly to relaunch the local economy and society. The Mediterranean Diet offers an excellent opportunity to innovate locally in terms of territorial intelligence through the "economy of conventions" tool, a territorial pact to create a local agri-food system and an assertive symbolic culture that respect and enhance the prestigious international status it has been given.

## MEDITERRANEAN DIET, TRADITION AND INNOVATION IN THE ALGARVE TRADITIONAL RURAL SPACE

In 2014, the international year of family farming was celebrated, an added reason to renew the "great alliance" between the tangible heritage (local biodiversity) and the intangible heritage (culinary, culture and lifestyle) of towns and villages, and between the promotion of health, education and the environment (the social environment and education for development) and the small-scale local economies of the Algarve interior.

What about the micro and small-scale economies and the desertified and depopulated inland settlements? How will we integrate them into this far-reaching and long term movement, the Mediterranean Diet, without losing sight of the need to produce concrete results in the short and medium term? To what extent can the construction of a networked territory for the Mediterranean Diet be used to test the demands and expectations that have accrued around an international designation, while testing the ambition and the competences of the local political community in terms of the organisation of the common good and the public interest, taking responsibility for doing so at their own risk?

In a region marked by the absolute supremacy of the tourist sector, with all the external diseconomies this fact entails, the warning against a possible undue appropriation of the anthropological culture contained in the human ecology of the Mediterranean Diet makes every sense. Along this line of thinking and with all due caution, the main topics on the agenda in terms of the sustainability of

the Algarve traditional rural space concern the lack of verticalisation of the value chains of regional and local products and the absence of a modern and representative range of "vertically structured regional products".

Recent history on this matter is widely known. As a result of the growing supremacy of the real estate economy, in its various tourist and residential forms, the Algarve space between the coast line and the EN125 road, has been taken over by the tourist real estate business, a consequence of which has been the fragmentation of agricultural property, the profusion of public amenities and infrastructure, making, therefore, many traditional agricultural holdings unviable, which before had multifunctional characteristics suited to the Algarve Mediterranean ecosystem. This thrashing of agricultural property and traditional farming coincided, on the one hand, with the decline of the regional association and cooperative movement and, on the other, with the emergence of a very heterogeneous commercial sector from which shopping areas of all sizes emerged, imposing stricter production and marketing rules on the region's agri-food economy.

To complete this scenario, we must add the commercial intermediary who, from the interstices of the small-scale local economy, has continued to carry out his opportunistic business, taking advantage of the obvious financial and commercial weaknesses of family farming which prevails in the Algarve traditional rural space. Furthermore, the disorganisation of the local labour market, resulting from the seasonal nature of the more aggressive and attractive tourist labour market, compounds this scenario. This unequal economic

and commercial, but also interprofessional and contractual relationship led to a strong decapitalisation of family farming in the Algarve and, over time, to its relegation to the informal economy and even to the desertion of many smallholdings, while substantially reducing its landscape, ecosystemic and multifunctional relationship with the region's local natural resources. The most evident signs of this fragmentation are there for all to see:

- Farming land awaiting urban development;
- The disorganisation of labour markets in the traditional rural space of the Algarve, traded for seasonal work in the more dynamic coastal sectors;
- An intensive, forced agriculture where intergenerational family work, multiple activities and multiple sources of income prevail, with a poor spirit of association.
- Short-term and low added value local production chains, crushed by trade margins;
- Local marketing channels in the hands of intermediary carriers;
- The degradation of the local and regional intangible rural heritage, from the Mediterranean landscape to the rural architecture of the Algarve *barrocal* and mountains and the desertion of many agricultural properties and family smallholdings.

What to do in this context and under these circumstances?

- Firstly, create value chains in which the Algarve traditional economic activities are permeated by the arts and culture, i.e. to make the tangible and intangible heritage a new source of wealth through creative and cultural activities;

- Secondly, innovate and create a new range of "structured products and services", with bolder product design and marketing;
- Lastly, promote a new collective territorial intelligence by setting up thematic networks and/or networked territories.

To illustrate this idea, just think of the verticalisation of the value chain of the Algarve goat and the tasks this option entails, always from a perspective of valuing the local economies and their most sensitive ecosystems, right where the Algarve goat has its favoured ecological niche (and the same applies to honey, *medronho*, wild fruits, the traditional dryland orchard, citrus fruit, flowers, mushrooms, cork, game, etc.) Let us approach this value chain systemically:

- Firstly, the producers of the indigenous breed of Algarve goat should be grouped together with a view to improving and enhancing the species' local biodiversity and its ecological niche;
- Secondly, technical, associative and public assistance should be organised within a more agro-ecological and ecosystemic approach;
- Thirdly, the social capital involved should be rejuvenated, both at the producers' family level, and by inviting "new members" into the group;
- Fourthly, the production process should be improved, the value chain functions extended and their internalities added with a view to reducing their internal transaction costs: breeding, pasture, biodiversity, land clearing, composting, among others;
- Fifthly, the range of final products from the Algarve goat should be diversified, as should target markets through more intelligent marketing and sales procedures;

- Lastly, the production sector should be capitalised and the Algarve goat value chain linked to forestry exploitation of forest intervention areas, adding in this way the mass, muscle and nervous system of this local and regional productive system.

However, this methodology of verticalising the Algarve goat sector will only be successful if we have at the same time a backup action plan in terms of territorial development in the following areas:

- Widening the agro-ecological and organic farming areas;
- Extending creative and cultural activities, from culinary and gastronomic arts to traditional handicrafts, local materials and arts & crafts studios;
- Considering landscaping and land arts in association with nature tourism;
- Developing tourist products and services along the lines of health and well-being tourism for senior populations;
- Developing ecodesign activities, the green economy and the 3R arts (reduction, recycling and re-use);
- Promoting leisure and recreation arts, educational, recreational and therapeutic spaces, for instance for the senior population, including holiday camps and old people's homes;
- Developing multimedia and performance arts and creating artistic and cultural residencies, as well as events related to local history, oral literature, poetry, literary landscapes, and others.

This is our idea of territorial sustainability to reconcile tradition and innovation in the Algarve traditional rural space, i.e. the verticalisation of an economic activity across a sector should be cross-cutting and complemented by a network of activities horizontally reticulated, so that these intersections and this mesh result in a new territorial intelligence and, on its basis, to design a new hamper of "structured products and services" which we can identify with a new, more modern and cosmopolitan image of the region.

The example of the "TASA" handicrafts range (ancestral techniques, modern solutions) is a good illustration of this huge field of possibilities which combines local raw materials and artisanal technologies with modern design solutions and communication that revolutionise commercial territorial marketing, restoring a relevance to local territories and artists they had been missing so far. The cork- and cork route-related product range, more artisanal or more artistic, is another good example of territorial rooting.

If we think of the many technical, technological and cultural associations in agricultural production, food engineering, distribution logistics, territorial marketing and design & communication, we have an immense field of possibilities for "structured products and services" around the Algarve goat, wild fruits, honey, *medronho*, mushrooms, aromatic and medicinal herbs, hand-made cosmetics, game, citrus fruits, etc., not to mention the universe of "lost seeds", particularly in the fruit and vegetable area, a surprising world lying expectantly at our feet on the lookout for an opportunity.

## CONCLUSION: *A NEW COLLABORATIVE RURAL ECONOMY* IN THE MAKING

To conclude, the status of "Mediterranean Diet, intangible heritage of humanity" represents a unique opportunity to upgrade the Algarve's local and regional economy, especially the economic promotion of the Algarve *barrocal* and mountains. The note of caution amounts, therefore, to saying that our hope of achieving this aspiration should be contained and restrained. For this, the region urgently needs, at the level of thematic networks and networked territories, to conduct a pilot trial on collaborative economy that may sow the first seeds of what a regional certification policy of the Mediterranean diet will be in the near future. This is a far-reaching challenge and an invaluable common good for the country and the Algarve region.

### BIBLIOGRAPHY


AAVV, MEDITERRA, (2012), *La diète Méditerranéennne pour un development durable*, CIHEAM.

BARROS, V. (2014), *Dieta Mediterrânica e desenvolvimento rural*, Lisbon, ANIMAR Edições.

CERTEAU, M. (1990), *L'invention du quotidien,* Paris, Gallimard.

COVAS, A AND Covas, M.M (2014), *Os territórios-rede, a inteligência territorial da 2.ª ruralidade*, Lisbon, Editora Colibri.

COVAS, A. M. and COVAS, M. M. (2013b), *A construção social dos territórios-rede da 2.ª ruralidade: dos territórios-zona aos territórios-rede – construir um território de múltiplas territorialidades, Revista de Geografia e Ordenamento do Território*, no. 3, (30 June), Centro de Estudos de Geografia e Ordenamento do Território (CEGOT), pp. 7-40, PDF: 43-66. http://cegot.org/ojs/index.php/GOT/issue/current

COVAS, A. and COVAS, M. M. (2012), *A caminho da 2.ª ruralidade, uma introdução à temática dos sistemas territoriais*, Lisbon, Editora Colibri.

COVAS, A. and COVAS, M. M. (2011), *A Grande Transição, pluralidade e diversidade no mundo rural*, Lisbon, Editora Colibri.

PEREIRA, H. *et al.*, (Eds.) (2009), *Ecossistemas e bem-estar humano: avaliação para Portugal do Millenium Ecosystem Assessment*, Lisbon, Escolar Editora.

TEEB Report (2009), *TEEB for policy-makers*, UNEP, TEEB Group.

TELLES, G. R. (2003), *A utopia e os pés na terra*, Lisbon, Edição do Instituto dos Museus.

# Biographic notes

**JOÃO GUERREIRO** obtained the title of "agregado" in Regional Economics from the University of Algarve (2004) and has a PhD in Economic Science (Agricultural Economics) from the same University (1994). He has been Professor of regional development at the University of Algarve since 2005. Rector of the University of Algarve between 2006 and 2013.
Member of the Permanent Committee of the Council of Rectors of Portuguese Universities (CRUP) (2010-2013); Chair (2006-2008) and Vice-Chair (2008-2013) of the Association of Portuguese-speaking Universities (AULP); Pro-Rector of the University of Algarve in the fields of technology transfer and innovation (2004) and Head of the Regional Centre for Innovation of the Algarve (2004-2013). He held the posts of Chair of the Inter-Mediterranean Commission of the Conference of Peripheral and Maritime Regions (CRPM) (2002/3); and Chair of the Coordination Committee of the Algarve Region (1996-2003). He has published extensively on agricultural economics and regional economics, rural and local development, the economics of innovation and the role of universities in development.

**PEDRO GRAÇA** is a nutritionist, holder of a PhD in Human Nutrition from the University of Porto. He is the director of the National Programme for the Promotion of a Healthy Diet – Ministry of Health. He represents Portugal at the High Level Group on Nutrition and Physical Activity – DG SANCO – at the European Commission. Director of the School of Life Sciences and Health – UJ – University of Porto. Chair of the Specialist Technical Committee of ASAE – Dietary Products, Nutrition and Allergies. Chair of the Jurisdictional Council of the Association of Nutritionists. Member of the Food Security Commission. Member of the Monitoring Group for the Protection and Promotion of the Mediterranean Diet. He was a Member of the Interministerial Committee responsible for the application for the Mediterranean Diet to be Intangible Cultural Heritage of Humanity (UNESCO). He has participated since 1996 in various scientific research projects, and has published in Portugal and abroad.

**JORGE QUEIROZ**, born in Lisbon, is a Sociologist. He post-graduated in Administration and Public Policies from ISCTE, Lisbon. City Councillor for culture, heritage and museums in Tavira City Council. Director of the Tavira Municipal Museum. Guest Assistant Professor at the University of Algarve in the "Cultural Management" Masters' Degree. Programmer for Visual Arts and Exhibitions for "Faro 2005 – Portuguese Capital of Culture", and curator of dozens of exhibitions on heritage and contemporary art. He was technically responsible for the Transnational Application for the Mediterranean Diet to be inscribed in the UNESCO Intangible Cultural Heritage Representative List, approved on 4 December 2013 in Baku, Azerbaijan. He has participated in seminars on Cultural Management, Heritage and the Mediterranean Diet, in Portugal and abroad. He has published a number of articles in magazines, catalogues and newspapers. He has recently published the book "Dieta Mediterrânica – uma herança milenar para a humanidade" (Mediterranean Diet – an age-old legacy for humankind), Althum, Lisbon, 2014.

**ISIDORO MORENO** is a Professor of Social Anthropology at the University of Seville, where he was appointed Emeritus Professor. He heads the GEISA (Group for the Study of Sociocultural Identities, Andalusia) research group. He was the founder and, at different times, the president of ASANA (Andalusian Anthropology Association) and the Federation of Anthropology Associations of Spain. His principal field of study focuses on the effects of the globalisation and identity reaffirmation (localisation) dynamics on multiculturality, inter-ethnic relations, migration, work and gender cultures, partnerships, cultural heritage, festive rituals and religions, areas in which he has published books and scientific papers. He has worked mainly in Andalusia, Mexico, Ecuador, Argentina, Italy and Portugal.

He was director, scriptwriter and advisor in many TV documentaries and has written regularly for over thirty years for the Andalusian press. He was the recipient of several prizes, including the "Premio Andalucía de Investigación sobre Temas Andaluces" (2001), the "Premio Internacional Etno-demo-antropológico Giuseppe Pitré" (2005) and the "Premio Fama" for research by the University of Seville (2008).

**CATARINA OLIVEIRA**, born in Lisbon in 1972, graduated in History, specialising in Archaeology (1994) and has a Masters' Degree in Regional and Local History (1999) from the faculty of Letters of the University of Lisbon. She has been Senior Cultural Heritage Officer for local authorities since 1998, and is currently responsible for the Cacela Heritage Research and Information Centre at Vila Real de Santo António City Council, where she works on heritage scientific research, communication, interpretation, enhancement and enjoyment; education for heritage and cultural programming. As a researcher, she has worked and collaborated on a number of projects in the fields of cultural heritage, history and archaeology, and she has a keen interest in archaeo- and and ethno-astronomy. She has published books and various articles and guides on archaeology, history and ethnography.

**ANTÓNIO MANUEL FAUSTINO DE CARVALHO**, born in Cascais on 2 October 1967, has Bachelor's and Masters' Degrees in Archaeology from the University of Lisbon, and holds a PhD from the University of Algarve. He was part of the team that created the Côa Valley Archaeological Park (1995-2000) before joining the University of Algarve in 2001 where he teaches in the fields of archaeology and cultural heritage. To date, he has led 12 research projects, mostly on the study of the early farming communities in the Mediterranean Basin, which has resulted in 135 publications.

**JOÃO PEDRO BERNARDES** has a PhD in Archaeology from the University of Coimbra. He is associate professor with the rank of "agregado" at the University of Algarve and principal researcher at the "Centre for Archaeology, Arts and Heritage Sciences Studies". He has participated and led national and international research projects on Roman archaeology and Cultural Heritage enhancement. He has some 70 titles published, including books and collaborations in collective works and scientific journals in Portugal and abroad.

**LUÍS FILIPE OLIVEIRA.** With a PhD in Mediaeval History, he is assistant professor at the University of Algarve and researcher at the Institute for Mediaeval Studies (University Nova, in Lisbon). His work focus essentially on three lines of research: military orders, urban elites and Mediaeval Algarve. He has published various works on these topics in congresses and specialist journals, and has collaborated in several research projects. He was one of the permanent collaborators of *Prier et Combattre*. *Dictionaire européenne des Ordres Militaires au Moyen Age***,** coordinated by Nicole Bériou and Philippe Josserand, Paris, Payot, 2009. With Philippe Josserand and Damien Carraz, he was responsible for the edition of Élites *et Ordres Militaires au Moyen* Âge. *Rencontre autour D'Alain Demurger,* Madrid, Casa de Velázquez, 2015.

**MARIA MANUEL VALAGÃO**, PhD in Environmental Sciences (1990); researcher in food and environmental sociology at the National Institute for Biological Resources (INBR), Lisbon, Portugal; consultant at Food and Nutrition Division of FAO/UN, Rome; expert on the European Commission's *Comité Scientifique des Appellations d'Origine, Indications Geographiques et Attestations de Specificité Alimentaire*, in Brussels; professor at Higher Institute of Business and Labour Sciences (ISCTE); actually researcher at IELT (Institute for Literature and Tradition Studies – Heritage, Art and Culture) Lisbon University FCSHUNL ; author and co-author of articles and books focusing on Mediterranean traditions, some of which were published and disseminated in Southern European countries.

**CARLA BRITES** is Auxiliary Research with aggregation at the National Institute for Agricultural and Veterinarian Research, and coordinates research projects on nutritional and organoleptic quality promotion of cereals and legumes. Chair of the Technical Standardisation Committee for cereals and cereal derivatives. Guest professor at the Estoril Higher Education Hotel & Tourism School. National Delegate at H2020 for DS2 "Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy".

**MARIA ELVIRA FERREIRA** has a Degree in Agronomy and a PhD in Agronomic Engineering from the Higher Institute of Agronomy (Lisbon). Researcher at the Unit for Agricultural and Forest Systems and Vegetable Health, in Oeiras, of the National Institute for Agricultural and Veterinarian Research (INIAV, I.P.). Her main research work is on production technologies of vegetables crops, with a special focus on vegetables for processing and aromatic and medicinal plant (AMP) crops. She was Chair of the Portuguese Horticultural Association Board (APH) from 2009 to 2014.

**MARGARIDA SOFIA JORDÃO COSTA,** born in Batalha on 09/02/1972, has a Degree in Fruit and Vegetable Engineering (1996) and Landscape Architecture (2004) from the University of Algarve. She has been a Senior Officer at the Algarve Regional Department of Agriculture since 1995, where she has worked on various experimental projects in native flora, aromatic and medicinal plants, ornamental plants and vegetable genetic resources, having published various works in congresses and technical meetings and participated in specialist publications. She has been providing support to agricultural investment since 2014.

**MARIA PALMA MATEUS** is a nutritionist, with a PhD in Food Consumption and Nutritional Sciences from the University of Porto. She is assistant professor at the School of Health Sciences at the University of Algarve and a researcher at the Health Studies and Development Centre of the University of Algarve. In recent years, she has participated in research projects in the areas of Mediterranean Diet, obesity and active healthy ageing.

**ANTÓNIO MANUEL ALHINHO COVAS** has a PhD in European Affairs by the University of Brussels (1987) and has been a professor at the University of Algarve since 2000. He was Pro-Rector and Vice-Rector of the University of Évora between 1990 and 1995 and between 1995 and 1999 he was an Advisor to the Cabinet. He has published 12 books on European Studies and 12 books on Rural and Territorial Studies, in addition to numerous articles. He has also been National Advisor for Education and member of the Management Unit of the Algarve Operational Programme between 2008 and 2014. His research is currently focused on the social construction of network territories and the design and implementation of collaborative networks.

**MARIA DAS MERCÊS CABRITA DE MENDONÇA COVAS** has a PhD in Sociology of Population and Human Resources Development by the University of Évora. She is Associate Professor of Education and Training Sciences at the University of Algarve. Researcher at the Research Centre for Space and Organisations (CIEO), University of Algarve. She has co-authored the following works: *Os Territórios Rede: a inteligência Territorial da 2.ª ruralidade, A construção social dos territórios: a inteligência territorial da 2.ª ruralidade, A caminho da 2.ª ruralidade, uma introdução à temática dos sistemas territoriais, A Grande Transição, pluralidade e diversidade no mundo rural – elementos para um novo contrato social, Ruralidades V, Modernização ecológica, serviços ecossistémicos e riscos globais, Ruralidades IV, Retratos portugueses de agricultura multifuncional, Ruralidades III, Temas e problemas do mundo rural pós-agrícola e pós-convencional.* She wrote *Percursos da sociologia da família.*

ALGARVE 21
PROGRAMA OPERACIONAL

QUADRO DE REFERÊNCIA ESTRATÉGICO NACIONAL
PORTUGAL 2007 2013

UNIÃO EUROPEIA
FEDER