Diet Changes and Society: The shift from mămăligă to wheaten bread in the case of the 19th century Romanian peasantry

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1. ABSTRACT

This thesis aims to offer an overview from a multidisciplinary perspective of one major change in the configuration of the Romanian peasants' diet at about the turn of the 19th century. Particularly, it will focus on the emergence of a medical discourse on the nutritional value of the peasantry stressing the need for improvement through diversification and displacement and the receptivity of the medical message by the state along with the re-adjustments brought to their recommendations in order to correspond with the limited means available for their translation into practice. In this sense, both the medical personnel's and the state's specific configurations of the 'ideal' diet will be projected against the background of the socio-economic settings prevalent in the rural world which ultimately conditioned and limited the extent of the state's intervention in reconfiguring the peasants' diet to the narrow solution of replacing bread for mămăligă.

2. INTRODUCTION

The half a century between the agrarian reform of 1864 and the First World War is one of the most dynamic, eventful, challenging and controversial epochs in the history of the Old Kingdom. It witnessed the first attempts of establishing the state on modern political basis, of gaining political independence and the widening of the cleavage among the intellectual community produced by the debate concerning the proper way for Romania's development. It stands for the actions of the state of providing basic school training for the majority of the population in view of eliminating illiteracy while on the higher level it aims at caching up with the scientific achievements and practices of the university community from the more developed European countries primarily in the field of medical knowledge. At a deeper level, it marks the firm integration of Romania's economy into the European market system amounting to the transformation of the country into a semi- periphery of the economically superior Western 'core' countries, the feeble reactions of establishing an indigene industrial sector with the subsumed policy of modernizing the agricultural production and with it the whole rural society, and of creating a country-wide system of rail and road network. Some of these endeavors were met with considerable success and on the eve of the First World War Romania was a constitutional monarchy with an active parliamentary life, a public care and educational systems that extended down to the rural level, and a more or less comprehensive transportation web stretching over most of the country. The agrarian problem found a partial solution in the land reform of 1917-1921 and the industrial enterprises developed especially in the field of petroleum extraction and manufacturing. On these structural-economic level however, the results were least impressive; the still overwhelmingly agrarian character of Romania's economy, the absence of important industrial sectors, the reliance on foreign capital both in industry and banking as well as the trade pattern stemming form such an

economic profile prolonged the peripheral status of Romania's economy in relation to the more advanced industrial countries of Western Europe. Yet, this does not preclude important changes in the nature and character of the core-periphery economic relationship especially at the level of the trade relations.

Along with these developments, a more quiet transformation took place at the deeper level of every-day life, the gradual change of the dietary habits of the peasantry. The basis of the change consisted in a balancing and ultimately in a displacement, at the level of the starch component of the diet, of corn-based foods with mainly wheaten bread. Initially, corn formed the bulk of the peasant's diet, as the core food in a pattern of dietary habits characterized by a duality of core-peripheral foods, and recurrently in times of severe hardship to such an extent that it represented the sole dietary item, as this description by a nineteenth century physician of the peasants' diet proves: 'The peasant's diet is austere, irregular and carelessly prepared, because it consists mostly of mămăligă made from corn flour, which they use as a substitute for bread, and in fasting days just of salt, onions and garlic. Sometimes they prepare foods made from various herbs, only with water and some flour or some mushrooms and wild fruits, collected previously and dried; rarely do they prepare bean or cabbage meals. With this austere and poor diet they live two out of three parts of the year that their robust bodies become feeble and the feeble ones and the children suffer from gastric diseases.' Regarding secondary items, the statement underlines the basic situation prevalent in the rural world in ordinary times: an over reliance on vegetarian products coupled with an acute lack of animal foodstuffs among the dietary items.

In contrast, medical personnel, sociologist and economist all envisioned at the threshold of the 1920's a diet for the peasantry free of corn and based on wheaten bread complemented by imported secondary items such as meats and dairy foods. They were right in respect with the gradual rise in importance of wheaten bread during the previous decades

which ultimately culminated in its substitution for corn-based foods. But, they expressed mere utopian ideas in regard with the diversification of the diet by engulfing animal foodstuffs in the overall dietary pattern based on the assumption that Romania's agricultural production and market aims will shift back from cereal commercial production to the traditional role of supplying Western markets with livestock and animal products. The line of reasoning though shows that they were well aware of the constraints imposed by the international market system in which the Romanian economy was embedded on the dietary patterns of the peasantry. In fact, I argue that the gradual shift in the peasants' dietary habits perceptible in the last decades of the 19th century and the first of the 20th resulted, reflected and influenced in various degrees all the major socio-economic, political and cultural developments depicted at the beginning of this chapter.

The research aims at providing an insight into the economic, social and cultural situation of the peasantry from the two Romanian principalities by taking as a starting point for the analysis the major change in food consumption underwent during the specific time frame by this particular social class. Although it starts the discussion from a moment when corn already played a predominant part in the peasant's diet both absolutely and relatively without a detailed explanation of the forces which led to this specific construction of the diet, the choice of limiting the analysis to this particular time frame has some significant advantages. Firstly, there is a considerable material available both on medical and commercial aspects relating to the problem of corn's place in the dietary habits of the peasantry which is sparser for previous periods. Secondly, I will address this problem at the moment when this particular item reached the apex of its importance in relation to other dietary components, and lastly, when the consequences on the peasant's health of this development could be accurately registered thanks to the establishment of a coherent rural medical system, all in conjunction with the constant increase at the levels of agricultural exports and social tension.

I will confine my analysis mainly to the exhaustive presentation of the dietary shift from corn-based foods to wheaten bread on the grounds that they had the most profound consequences on the peasantry, an assumption stemming from the fact that it affected the starch component which formed the bulk of their diets. Yet, a survey of the consequences of this diet change on the peasants will occasion an overview of the basic diet along with a description of other dietary changes underwent by them during this time frame as some of these changes augmented the consequences of the major dietary change.

Concerning the specific structure of the study, the first two chapters aim to chronicle the emergence of a medical discourse on the peasants' diet powered by the rise among the Romanian medical community of a nutritional theory mediating and giving shape to the overall medical discourse sparkled by their abrupt contact with the rural world. The building ground for this analysis will consist in a survey of the medical opinions on the peasants' diet emerged within three discourses of the medical narrative representing the conceptualization of the major health disorders prevalent in the rural world, namely the discourses on the miasmatic theory of disease, the degeneration of the race and pellagra. The basis for the discussion of the character and profile of the dietary aspects attached to all these discourses will be provided by a general description of the medical perceptiveness of the peasants' diet along the lines of the core-periphery structural model of diets. The applications of this model is very useful at the practical level in view of the special conceptualization of the main flaw in the peasants' diet at the level of secondary or 'core' foods, usually the description of the exact configuration in terms of food items pertaining to each level and the recommendations of the medical men for improvement being treated separately in each case under the heading of the respective health disorder they were supposedly responsible for. In this sense, the first chapter will analyze the place of improper nutrition within the complex of causative factors presupposed by a general understanding of disease dominated by the miasmatic theory.

Moreover, the effects of the miasmas were conceptualized along with other health disorders within an all-encompassing discourse on the degeneration of race understood as a complex and pervasive phenomenon which had its roots in the 'misery' prevalent in the rural world with improper nutrition central among the causes responsible for the degeneration. The common point in both discourses is their identification of the nutritional flaw causing the health disorders at the level of secondary dietary components resulting into similar pleas for the increment in animal products intake as a preventive measure for checking thehealth abnormalities.

The second chapter, although subsumed to the overall discussion of medical perspectives on the peasants' diet, will operate a shift in focus from secondary foodstuffs to 'core' items by surveying the medical opinion on the nutritional value of corn and wheat within the framework provided by the controversy and debate surrounding the etiology of pellagra. Moreover, the need for separate treatment of the discourses on improper nutrition emerged within the degeneration and the pellagra discourses rests on the differential degree of politicization and socialization of these distortions as well as on the discrepant degree of importance of the dietary factor within their etiology, with pellagra being understood as a nutritional disease per se and benefiting from a high degree of politicization translated into sustained state intervention against it.

As a framework for the discussion of the feasibility of the particular medical recommendation for the improvement of the peasants' diet, I will provide in the last chapter an analysis of the close relationship between dietary choices and internal and international economic systems. Particularly, I will highlight the significant impact on the nutritional patterns of the expending international grain trade in which the peasant household became gradually embedded starting with the first part of the 19th century. I subscribe to the idea that once integrated into the peasant's diet, the importance of corn was augmented by the

integration of the peasant household in the wheat trade in the same manner as afterwards the changes in this commercial sector made possible the switch to a more balanced diet. The specific setting of the international grain trade into which Moldavia and Walachia become integrated exercised a strong influence on the peasants' economic activities through its power of directing their productive forces towards specific items demanded on the international market. Thus, the fading away of the Ottoman economic influence and the integration into the western European economic sphere ratified by the Treaty of Adrianople signaled a turning point in the economic activities of the peasantry marked by a shift from livestock breeding and a semi-pastoral existence towards an agricultural life centered on the growing of commercial crops. The movement proved to be all-encompassing as it profited from the decline of the self-sufficient character of the peasant household under the weight of the new requirements imposed by the modern state especially through its system of taxation which forced the peasants to enter into the market economy in order to acquire the money needed to defray the additional burdens. The decrease in animal husbandry and the increase in wheat cultivation as the new cash crop under the imperatives of the new market demands affected the peasant's diet by cutting down on secondary components like dairy foods and by relegating to corn-based products the role of sole core foods. Under conditions of an adverse economic system exercising a considerable pressure on the dietary patterns of the population by forcing down the peasantry into subsisting merely on corn and on alleged insufficient amount of animal products, the medical personnel joined the political element pushing for agrarian reforms as they considered the overall socio-economic improvement of the peasantry as the necessary first step in their scheme of reforming the peasants' dietary habits.

Within such an understanding of the relationship between dietary patterns, social standing and economic conditionings from outside markets, the spurt in bread consumption noticed in the immediately subsequent years of the First World War has to be accounted for

by taking into consideration the complex developments registered within both internal and external spheres of influence. Consequently, I propose as an explanation for the displacement a complex of causes, among which the principal factors are the fall of demand for Romanian wheat on the European market that forced the producers to redirect their policy towards supplying the internal market (greatly enlarged by the addition of new territories after 1918) and the change in the profile of the country's trade exchange with western Europe by creating a surplus of other exportable products, mainly corn and animal foodstuffs. Moreover, the land reform of 1917-1921 affected the wheat trade by dissolving the large properties which of old were the main suppliers of this particular product. Consequently, the increase sized of the average peasants holding following successive land reforms enabled most of the landed peasants to practice a two-field corn-wheat cultivation system without the traditional incentive of selling the wheat harvest. Only after these major shifts in the organization of property and in the external trade profile was it possible for the peasants to reshape their dietary habits in view of their acquired notions regarding an 'ideal' diet.

3. DIET CHANGES AND SOCIETY

The basis of my thesis' argument rests on a set of assumptions provided by the field of anthropology of food concerning the structure and character of 'primitive' civilization's diet. The seminal study in this regard is Sidney Mintz's introductory essay to *Sweetness and Power. The place of sugar in modern history*. Although his analysis of sugar consumption focuses mainly on the changes developing theoretically at the fringes of peoples' diet, his preparatory considerations on the general structure of primitive peoples' dietary patterns and on the impulse of societal factors in directing biological predispositions towards a certain construction, and in maintaining that particular configuration, of those diets provides the building ground for any study addressing the subject of dietary changes. In his approach, Mintz adopted and further developed the major propositions put forward by Audrey Richards in her studies of the dietary patterns of the Bemba tribe[1] concerning the underlying feature of primitive societies food habits - their over reliance on a complex carbohydrate product as the 'core' of their diet, which is supplemented with secondary, varied components, consumed in far smaller quantities than the staple product - and the all encompassing importance of the staple product in the overall life of the people subsisting on it. On these grounds, Mintz considers dietary changes at the level of core foods in traditional societies to be high marks of significant reorientations which affect the very texture of those societies. Changes in food staples are seen as the result of enormous pressures which by questioning the basic food on which a society subsists, challenges the very fundamental factor around which the entire life of a community is organized. The activities required by the production of staple foods are considered to be at the center of each individual's experience, influencing his view on every aspect of his life in the same way that the basic food with all its specific characteristics

[1]Audrey Richards. *Land, Labour, and Diet in Northern Rhodesia: and economic study of the Bemba tribe*. (Oxford: Oxford University Press, 1939). A summary of her main claims concerning the configuration of the Bemba tribe's diet can also be found in Sidney's Mintz book.

represents for him '*the* definition of food'[2].Within this theoretical framework, my thesis aims to offer an integrated and complete picture of the various forces at work in the process of shifting from mămăligă and corn-based foods to wheaten bread and thus to propose an answer to the challenging counterfactual proposition presented by Mintz in his theoretical overview of dietary changes:

> What people eat express who they are, to themselves and to others. The congruence of dietary patterns and their societies reveals the way cultural forms are maintained by the ongoing activity of those who 'carry' such forms, whose behavior actualizes and incarnates them. Given the remarkable capacity of human beings to change, and of societies to be transformed, one must nonetheless imagine what would be involved in turning the Mexican people into eaters of black bread, the Russian people into eaters of maize, or the Chinese into eaters of cassava.[3]

On the basis of the general features of the complex relationship between dietary patterns and community life underpinned by Mintz I will further the analysis of dietary changes by integrating the more specific considerations on the mechanism governing this particular process presented by Ellen Messer in her 'Anthropological Perspectives on Diet'[4]. In this article Messer presents an exhaustive check-list of all the particular forces at work in the process of dietary changes designed in an eclectic manner through the integration of the various hypotheses on this point pertaining to the most prevalent theories discussing the subject of peoples' diet. Moreover, her critical approach to these theories led to a hierarchical arrangement of all these forces with the economic aspects having the lion's share within the overall spectrum of forces intermingling in the complex phenomenon of dietary changes. Overall, by acting as a melting pot for the various theories on diet, Messer's theory has the advantage of presenting a more comprehensive and balanced approach to dietary changes by giving full consideration to such non-economic factors as symbolic and cultural meanings, or cognitive aspects as taste, textural and visual perceptions.

[2] Sidney W. Mintz. *Sweetness and Power. The place of sugar in modern history*. (New York: Penguin Books, 1991), 11.
[3] Ibid. 14.
[4] Ellen Messer .*Anthropological Perspectives on Diet.* Annual Review of Anthropology, Vol. 13 (1984), pp. 205-249.

However, Mintz's chronicle of the rise of sugar consumption in England argues against the primacy of the economic explanation, his particular approach to the subject being subsequently refined by Woodruff D. Smith'[5] analysis of one particular spurt in sugar intake - the association of tea and sugar and the spread of this custom both geographically to include the whole of the British Isles and socially downwards to the working classes - by giving due consideration to the set of non-economic aspects. Although the phenomenon addressed by both writers refers to modifications in consumption patterns registered at the level of accessory foods, the theoretical frame applied in their analysis maintains its significance for the study of item displacements at the level of 'core' foods. Thus, as a theoretical premise to the subject of dietary changes, I subscribe to the opinions expressed by Woodruff concerning the need for multidisciplinary approaches to the phenomenon and the insufficiency of unilateral explanations powered by a singular field of knowledge in accounting for their nature and mechanism:

> There is no reason, in fact, to assume a priori the primacy of any particular set of factors in addressing this class of phenomena. An economic analysis of the falling prices of tea and sugar in the eighteenth century can help to explain why Europeans consumed more of the two commodities, but not why they wanted to combine them in the first place. Modern anthropological theories can help us understand the meaning of the custom, but they are not very useful in explaining change. Many sociological models are applicable, but they tend to presuppose the existence and causal priority of transcendental processes of societal change (such as modernization), which are difficult to connect convincingly to commonplace phenomena like the tea-and-sugar custom. For this topic, a means of combining disciplinary analyses is required. [6]

In this sense, I find as a useful conceptual tool in directing my analysis the notion of 'cultural context' defined by Woodruff as 'an assembly of cultural traits (social structures, customary behaviors, ideas, words, and material objects) that made "sense" to contemporaries as elements of their world, meaningfully linked to one another.'[7] Applied to my specific research subject, the concept of 'cultural context' points to a twofold movement powering the gradual

[5] Woodruff D. Smith. *Complications of the Commonplace: Tea, Sugar, and Imperialism.* Journal of Interdisciplinary History, Vol. 23, No. 2 (Autumn, 1992), pp. 259-278.
[6] Ibid. 260-261.
[7] Ibid. 261.

process of displacing wheaten bread for mămăligă, the construction and diffusion of a social and cultural meaning of bread consumption and the rise of a nutritional theory pleading in favor of the displacement. The former refers to the attachment of certain consumption habits to social standing and the role played by these dietary patterns in enforcing and displaying social differentiation. In this sense, the choice and consumption of a specific item goes beyond the mere physiological act of satisfying hunger to assume social significance as a statement of ones own position in the social hierarchy. Furthermore, the constant struggle of the lower classes for social advancement often concentrates on the emulation of the particular behaviors delimiting the high social classes from the rest of society with the purpose of mitigating all apparent differences separating them and thus ensuing a process of constant redefinition and reconfiguration of distinctive social marks[8]. The widening cleavage between townspeople, landlords, the wealthy stratum of the peasantry and the middle and lower classes of peasants found expression in the consumption patterns sanctioned by the differential quantitative intake of bread and animal foodstuffs within these groups' regular meals. Moreover, the social significance of bread as a mark of well-being was further emphasized by the employment of wheat in religious ceremonies and by its consumption in various forms during festive meals. Its social meaning and potential would be exploited to the maximum by the communist regime's propaganda and activities who by encouraging and enabling the increased consumption of wheaten bread, aimed at rallying the peasantry around the regime by posing as their material benefactors and by eliminating a distinctive sign peculiar to their 'exploiters' unfitted for an equalitarian society.

The second movement refers to the emergence of a medical perspective on nutrition favoring wheaten bread over corn-based foods in general and mămăligă in particular on the grounds of its nutritional superiority or, at least, of its alleged therapeutic and preventive

[8] Georg Simmel. *Fashion.* The American Journal of Sociology, Vol. 62, No. 6 (May, 1957), pp. 541-558.

capacities against pellagra, a hypothesis enshrined in the official policies adopted by the state in tackling this disease. An accurate estimation of the degree of diffusion and acceptance of the official nutritional policy within the rural world implies an assessment of the effectiveness of the various channels of state intervention. A survey of these channels and their efficacy in disseminating and inculcating the new nutritional behavior in the rural world benefits from previous studies discussing the rise of the modern states as the mechanisms and institutions employed in popularizing these theories overlapped with those employed in the overall 'modernization' of the rural world and which have been skillfully depicted by Eugen Weber in his classic *Peasants into Frenchmen*[9] and, for the Romanian case, by Constantin Bărbulescu's *Modernization of the Rural World.*[10] However, the nutritional theory came only as a complement and booster to the overriding factor of consumption emulation displayed by the peasantry throughout the relevant time frame, a symptomatic sign of the effectiveness of that certain configuration of the dietary patterns in fulfilling its role of segregational social mark. Its impressive viability resulted from its close relationship to economic status under conditions of virtually no economic improvement at the level of the peasantry, indicating as the major factor enabling the displacement, the changes underwent at this particular level.

In substantiating the impact of the economic factors on the dietary patterns of the peasantry, I will employ and develop the adjusted 'center-periphery' model of economic relations proposed by Daniel Chirot in his analysis of Wallachian society.[11] As a useful generalization concerning the complex relationship between the economic Center and its periphery, Chirot subtracted two constant aspects pertaining to the impact of the Center conceptualized as the power to direct the productive forces of its annexes towards the

[9] Eugen Weber. *Peasants into Frenchmen. The Modernization of Rural France, 1870-1914*. (Stanford, California: Standford University Press, 1976).
[10] Constantin Bărbulescu and Vlad Popovici. *The Modernization of the Rural World in the Second Half of the 19th and the Beginning of the 20th Centuries*. (Cluj-Napoca: Accent, 2005).
[11] Daniel Chirot. *Social Change in a Peripheral Society: The creation of a Balkan Colony*. (New York, San Francisco, London: Academic Press, 1976).

production of a particular surplus and the capacity of increasing the pressure on them in order to force the commercialization of a greater quantity of that surplus. Regarding the first aspect, specific demands within the Center of the economic system in which the economies of the Principalities were embedded influenced the nature of the surplus required, followed by an adjustment of the productive forces towards the production of that specific item. The intensity of surplus extraction and reorientation of productive forces varies with the Center's capacity of subordinating the economy of the peripheral society and depends ultimately on the mechanism employed in the process of extraction and the degree of self-sufficiency of the surplus producers. As a general rule for the Center-periphery economic relations during the relevant time frame, I argue that the mechanism of surplus extraction followed constantly a pattern characterized by an indirect interaction between the surplus producers and the Center with the boyar class acting as a relay between the two poles. An estimated measure of the impact of the Center's capacity of dictating the surplus produced in the Principalities, therefore, must take into account the nature, profile and intensity of the trade relations between the Center and the boyar class and the latter's capacity of implementing the Center's requirements within the peripheral society under a specific setting of relations with the peasants in their quality of producers of the surplus. Within this context, the discussion of the degree of autonomy in production and self-sufficient character of the peasant household finds its meaning in view of its increased participation in the exchange economy due to rising pressures exercised by the modern state on the rural world through taxation systems, incomplete agrarian reforms placing the peasants in an unfavorable economic position in their relationship with the boyars and ultimately further erosion of the self-sufficient character through the dissolution of the cottage industry and the establishment of direct trading relations with the Center for articles of consumption other than food items. Within a particular Center–boyar trading profile characterized by the exchange of Romanian wheat for Western and

Central European commodities and a specific setting of social and economic relations at the peripheral level between the boyars and the peasants, the Center's capacity of naming and extracting the surplus manifested with full force and acted as the principal factor in the configuration of the dietary patterns of the peasantry. The intensification of surplus extraction defined in view of the demand on the international market in which the Principalities became increasingly embedded, combined with the decline of the self-sufficient character of the peasant household in cutting down the consumption of bread and in boosting the commercialization of the peasants' own sparse production of wheat and of the harvests obtained through the employment of his labor on the landlord's reserve land. Consequently, the indispensable requirement favoring the switch from mămăligă to bread lays in the reconfiguration of the nature and character of the relations between the Center and boyars, as a result of modifications on the international wheat market characterized by the decline in the Western and Central European demand for Romanian wheat, and of the relations between boyars and the peasants due to the pulverization of the economic ascendancy of the boyars over the peasantry through the land reform of 1917-1920.

As a last methodological consideration, I have opted for a comparative analysis of the dietary habits of the Moldavian and Wallachian peasantry in spite of their unification and similar economic, social and cultural heritage and situation, on the grounds that precisely because their respective standings are very similar, a study of the discrepancies registered at the level of dietary patterns in each case can unravel with maximum precision the exceptional factors causing that specific differentiation

4. MEDICAL THEORIES ON NUTRITION (I): DIETS, SICKNESS AND DEGENERATION

The emergence of a medical perspective on diets marks a breaking point in the development of the nutritional patterns of the peasantry from the second half of the 19th century. From a general perspective, its importance can be assessed within a theoretical model proposing a two-fold conceptualization of the impact of such nutritional theories on the level of the policies governing the state's intervention in shaping peoples' diet and on the level of the peasants' perception and value of their dietary practices. As a necessary preamble to the discussion of such specific case studies, I will review the specific medical context within which the discourse on the peasants' nutrition took shape, by engaging into an analysis of the specific timing and conditions enabling the rise of such a discourse, the integration of the nutrition topic and its relationship with other key themes from the medical narrative, along with a description of the specific dietary configurations embodied in the medical personnel's recommendations.

The emergence and development of the medical discourse on nutrition was part of the wider process of medicalisation of the socio-economic and cultural standing of the peasantry within an all inclusive medical narrative sparkled by this professional communities' contact with the rural world under a specific contextual setting. Within this medical discourse, the nutritional problem emerged as a central and privileged topic in view of its interconnectedness with other key themes governing the discourse on the rural world exemplified by the miasmatic theory of disease, the degeneration of the race and the problems concerning the etiology of pellagra. The specific manner in which the relation between nutrition and each one of these main points of concern for the medical personnel was conceptualized will benefit from a separate and extensive survey pointing to the specific place of nutrition among the causative agents and conversely to the importance of dietary changes among the prophylactic

measures as well as the precise configuration of these particular remedies. Once depicted and acknowledged the main coordinates of the nutritional topic within the medical discourse on the rural world, the focus will shift on the assessment of its impact on the state's public and health policies and on the peoples' perception of their diets. The main argument is that the medical discourse on nutrition appeared and enjoyed a privileged position within a specific politico-national context, characterized by increasing concern over the standing of the peasantry ensuing in a phenomenon of politicization and socialization of the medical themes. This process was present both in the case of the miasmatic theory and the degeneration of the race, but it is most evident in the case of the socialization and politicization of pellagra. Overall, the task is to estimate the degree of the state's response to the problems signaled out by the medical community by reviewing its perspective, adaptation and application of the measures proposed by nutritionists, thus smoothing the way for the complete overview included in the subsequent chapter of the state's reactive measures, its limits, failures and successes within the contextual framework provided by a specific economic profile and setting.

The impact of the nutritional theories at the level of the peasantry will be measured in due regard of their respective hold on the peoples' perception on proper nutrition by means of a rough assessment of the effectiveness of the various channels of knowledge transmission from above, down to the level of the rural world. However, I argue that the specific recommendations of the nutritional theories fitted in an already established frame of thought favoring such changes and their influence should be considered only as secondary and subsumed to the more far reaching and powerful incentives for dietary changes represented by indigent perspectives on 'ideal' diet constructed in view of social fashion and relationship to class distinction.

4.1. The dietary theme within the emerging medical discourse on the peasantry and its relation to the miasmatic theory of disease

The debate surrounding the nutritional value of the peasants' diet emerged within a specific contextual framework, characterized by an increased understanding of the importance of dietary patterns on the underlying background of intensified interaction with the population at large, enabling an accumulation of knowledge on their social and economic standing, including exhaustive information on their diets inexistent before the 1860's. This flow of medical literature on the peasants' diet was inaugurated by the abrupt and intimate meeting of two diametrically different social classes - the medical personnel and the peasantry - occasioned by the gradual extension of the health care system which lead to the discovery of the latter social class in all its manifestations and in a degree of specificity never before attained. Naturally, what these medical practitioners found in the rural environments was conceptualized in light of the knowledge pertaining to their professional formation, resulting an image and discourse on the peasantry constructed in strict medical categories and topics. In this sense, the first account on the peasantry produced by their encounter with the modern state took the form of a medical discourse selectively including or excluding information in view of their professional mission and interests. Their encounter with the rural world was mediated and filtered through the lenses of their upbringing as experts in medicine and their account constructed in view of the main topics and categories, forming the paradigmatic body of knowledge in medicine within a specific time frame, which conditioned what particular aspects of the peasants' situation ultimately captured their attention and pen.

The remarkable consistency with which the topic of the peasants' diet was addressed in almost all major medical works on the peasantry, over a time span of more than three quarters of a century, highlights the centrality of the topic within the medical discourse on the improvement of overall health conditions, as well as a certain volatility of the theoretical

foundations guiding such discussions. The recurrent incorporation of detailed analysis on peasants' nutritional practices was grounded on the postulates of an overall paradigm of diseases emphasizing the importance of underlying and predisposing factors in disease causation. Particularly, this interest in general living conditions formed the theoretical backbone of the hygienist approach to the health problems of the rural world, reaching the apex of its influence within a medical understanding of diseases powered by the miasmatic theory. Within such an understanding, the direct and decisive agent of the disease, the miasmas, manifested its nefarious effects on a necessarily weakened organism by such indirect factors as bad housing, clothing, improper nutrition, alcoholism, exhaustion, which acted as predisposing factors for the disease: 'They all absorb miasmas, but they are not all influenced in the same degree […] They resist better (are not affected) against the miasmas who have a substantial diet (roasted meat) and wine.'[12] Boosted by this theory, the proper means of checking the outburst of illnesses focused on a twofold tactic of preventing the formation of miasmas through various practices and elevating the living conditions of the population so that the organism would be able to resist the miasmatic influences:

> …instead of letting them linger on the porch because of the melons and mamaliga they eat, enabling him, as much as his means will allow, to eat eggs, cheese and milk, from time to time meat, he will be stronger and much more healthy: and I am convinced that the countless epidemics affecting our poor population today, and especially paludism, will not be able to rage in such a pernicious and destructive degree, when the bodies on which they ultimately fell would be better cared for and fed.[13]

The advent of the bacteriological paradigm inaugurated an understanding of diseases that focused on the external influences - the microbes - and rendered only a secondary and limited importance to the group of inner body, predisposing factors by conceiving the impact of the microorganisms on the individual contaminated as uniform regardless of other conjectural

[12]Georgiade Mihail Obedenaru. *Despre Friguri. Mic tratat potrivit pe înțelegerea poporului român pentru a servi in localitățile unde nu sunt medics. [On Fevers. Small treatise for the easy apprehension by the Romanian people in the localities where there are no medics]* (Bucharest: Imprimeria Statului, 1873) 7.

[13] C.I. Istrati. *O Pagină din Istoria Contimpurană a României din Punctul de Videre Medical, Economic şi Național [A Page from the Contemporary History of Romania from a Medical, Economic and National Perspective]*. (Bucharest: Alesandru A. Grecescu Tipography, 1880) 280-281.

factors, thus minimizing the role of the previously crucial social component within the medical preventive measures. Although it is arguable, the extent of this marginalization of social factors in tackling diseases within the medical community, nevertheless the acceptance of a bacterial understanding of diseases shifted the focus of the preventive measures from the individual afflicted to the new agent of the disease, reconfiguring the nature and character of the public health policies by cutting down on particularly those measures aiming at improving the social and economic standing of the individual. From this point on, checking the outburst and spread of microbes supposedly affecting equally each individual within a population, aims greatly facilitated by the clear identification of the causative agent of the disease and its pattern of transmission, would suffice in assuring a disease-free environment.

Allowing for a certain time lag between the emergence of the bacterial understanding of diseases and the adherence of the majority of the medical community to it, as well as a certain delay in the transmission of medical knowledge from Central and Western Europe to peripheral areas of the knowledge system, would imply that by the end of the 19th century the Romanian medical community should have lost most of its interest in the social and economic position of the peasantry from a strictly disease control point of view. However, the medical literature pertaining to such factors manifested a remarkable vitality even after the fall of the miasmatic theory of diseases arguing for a much durable fusion of the nutritional topic to central themes of the medical discourse from the second half of the 19th century. In fact, the medical literature on nutrition conceptualized as a predisposing factor in disease causation is comparatively small relative to, and often included into, the literature approaching the same topic but pertaining to such medical themes as the degeneration of the race or the question surrounding the etiology of pellagra.

4.2. Degenerating and Rejuvenating through Nutrition

The emergence of the medical system forming the vanguard of the state's intervention reaching ever further into the rural structure as a consequence of the gradual extension of the public health service up to the communal level, inherently presupposed in its practice the collection of reliable statistical data on the overall health of the population in order to identify the major health problems to be tackled and monitor their results. Within this system organized on a bureaucratic - centralized basis, the data collected by the medical personnel in their encounter with the peasantry was circumscribed by the limits of their professional interest, resulting into an exclusivist observation monopolized by a check list with specific categories of facts to be focused on, constructed in accordance with a body of knowledge describing and measuring the health status of a population. Adjacent to these regular reports of the medical personnel on a certain village comprising a mass of facts organized in certain categories, the annual reports of the army drafting commissions supplies the clearest example of this mechanism of selective observation and interpretation of facts within predefined medical categories. The wealth of information accumulated through these two channels of data collection and arranged into predefined medical categories of disease or abnormality enabled the formation of an all-inclusive image of the health status of the population at a certain point and its comparison to an ideal type, a normal state of health, usually embodied by the health status of more advanced European states. The results of this interpretation from a medical viewpoint of the statistical information on the peasantry circulating within the structure of the public health system struck with such horror the medical community that it inaugurated and supported a whole new theme in the medical literature under the denomination of the 'degeneration of the race' for more than three quarters of the century.

Generally, the process of degeneration of the Romanian nation was conceptualized as the final phase and result of a number of health and behavior abnormalities and trends having

as its principal cause and driving force the precarious state of health and hygiene of the rural population. The phenomena customarily attached to this quite ambiguous concept included processes directly linked to public health issues as high mortality rates, especially among the very young members of a population, high morbidity and susceptibility to disease, low birth rates, increased number of debilitated persons and rejected recruits on medical basis, high percentage of annually ill persons, high consumption of alcohol and the incidence of alcoholism among the population, decrease in the average bodily size and strength as proved by drafting reports, and the wide-spread character of pellagra understood as a disease of malnutrition and misery with its debilitating effects on the functioning of the body[14] - and some that cannot be directly connected to it as relaxation of public morality, proverbial laziness of the peasantry, high rates of criminality.[15] The manifestation of all these pernicious effects have been most eloquently articulated in Bacalbasa's bleak description of the situation of the peasantry living in the vicinities of Bucharest in his *A cry of Warning*: 'The population is in constant physical decay…Children are dying in huge number. The ones who live are just shadows of human beings, pale, degenerated, with enormous bellies…People loose their working capacities and the number of idiots is on the rise…The peasantry slowly decays silently and …, whose children are borne deformed to live like idiots or dye soon after their birth.'[16] Fifty years earlier, the distinguished hygienist, chemist and doctor C.I. Istrati portrayed the situation of the peasantry in an astonishingly similar manner underlying the peculiar consistency and permanence of the discourse on the degeneration theme within the medical literature:

[14] A. Urbeanu. *Probleme sociale. Primejdia degenerării poporului român si Nevoia întregirii hranei țăranului. Social Problems. [The Danger of degeneration of the Romanian population and The Need of improving the peasants' diet]*. (Bucharest: Imprimeria Națională, 1927) 4.
[15] Constantin Bărbulescu. 'Tema degenerării rasei în literatura medicală din România la sfârsitul secolului al XIX-lea.'[The degeneration Theme in the Medical Literature from Romania at the turn of the 19th Century]. in N. Bocsan, S. Mitu and T. Nicoară (Ed.): *Identitate si alteritate. Studii de istorie politica si culturala [Identity and Otherness. Studies in Political and Cultural History]*. vol. 3, P.U.C., Cluj-Napoca, 2002, pp. 273-290.
[16] Adrian Urbeanu. *Probleme sociale.*

> Because of this diet, complemented by the abuses they make in consuming herbs and unripe and low quality fruits, results an onerous influence on his physic and morale state, as well as on his children. This is thus the cause of his weakness, morbidity, mortality and of his low working capacity and even of his involuntary laziness….First, that by weakening him, it exposes him to different diseases, especially to the influences of the miasmas, which once subjected to, will not allow him neither the time nor the power to work….From this same cause results the high mortality of the children, the elderly and of the convalescents...Secondly, that with an organism improperly fed, we have fewer chances of having children; and especially of giving birth to viable, valid children.[17]

Overall, the final result of the degeneration process is the total obliteration of the race, if not as a direct result of the constant degradation of the physical conditions than through external invasion by another population whose task will be greatly facilitated by the general state of decadence of the native population: '…reports of the recruiting commissions, of the rural medics, etc. show that the young generation are in many parts of the country ever more debilitated, more puny, and with vices of development, which increase from one year to another the number of those rejected as unfit, which now amounts to 50%, and decreases the average value of those recruited. This state of things alerted the War Ministry…[18] The extent of the danger is further magnified, as the degeneration processes was widespread among the peasantry in their quality of largest segment of society and basis of the economic strength of Romania:

> …[Pellagra] by consuming slowly his physical powers, it stops him from working. This loss is further aggravated by the fact that it attacks mostly the rural population and among this only the working peasant, the agricultural worker, who is the basis of the state, especially of agricultural state, where the cultivation of fields is the source of its strength. Surely the power of the state will fall or rise in direct relationship with the health and the working power of this important stratum of society. [19]

However, the medical personnel approaching the degeneration theme did not content itself with just warning about the consequences of the dreaded state of the peasantry, but competed in offering remedies for avoiding the imminent danger. Regardless of their more or less

[17] C.I Istrati. *O Pagină din Istoria Contimpurană a României din Punctul de Videre Medical, Economic şi Naţional.*
[18] A Urbeanu. *Îmbunătăţirea Alimentaţiei Ţăranului Român. [Improvement of the Peasants' Diet]* (Bucharest: "Sperantei", 1901) 5.
[19] Ioan Neagoe. *Raportul Doctorului Ioan Neagoe asupra Misiunei sale în Străinătate pentru a Studia Midloacele de Combatere a Pelagrei. [The Raport of Doctor Ioan Neagoe on his Mission Abroad for the Study of the Means of Combating Pellagra]*. (Bucharest: Imprimeria Statului, 1889) 4.

contradictory specific recipes for alleviating the peasants' standing, all the theories approaching the degeneration of the peasantry subject had their common point in the identification of improper nutrition as the principal cause for all the evils associated to this phenomenon. As early as 1861 D.P. Martian identified as the major cause for the degeneration process the insufficient nutritional value of the peasants' diet arguing that : '…because of the lack of good food, not only that they [peasants] don't have the same dynamic labor power as the foreign workers employed in the same task in other countries, but in them we see day by day degenerating that race of people, at whose sight the archaeologists from the 16th and 17th centuries were reminded of the statures of the people depicted on Trajan's column.'[20] The conceptualization of the relationship between improper diet and the degeneration process varied only in the degree of the formers impact on the overall phenomenon, the medical literature displaying a variety of opinions on the matter, ranging from an understanding of flawed nutritional practices, as the cornerstone of the degeneration of the Romanian race, to a more attenuated link between them, with the provision that the dietary factor was a permanent presence among the factors associated with the degeneration at least under the heading of secondary causative agents. The fusion between people's diet and the degeneration process was for some medical men so strong that even the moral wrongs associated with it allegedly sprung from their flawed nutritional practices:

> Based on the physiological data that are known more than positively today, it is known that the quantity of labor; the health status; the increases or decrease in the mortality rate; as well as the very existence of a nation or the manner of its existence; depend on how the majority of a countries' population and for our case in particular the Romanian element, will feed, properly or insufficient…[By feeding properly] They will stop being drunkards, from here there will not be wrong-doers, or sickly, or accused of being lazy…From the moment a population starts eating better, also starts a renewed intellectual life. All its necessities, all its aspirations, are nobler, more finely conceived, and everything else is more carefully thought. [21]

[20]Adrian Urbeanu, *Despre Caracteristica Alimentației Țăranului Român. [On the Characteristic of the Peasants' Alimentation]*. (Bucharest: State Imprimary, 1903) 4.
[21] C.I.Istrati. *O Pagină din Istoria Contimpurană a României din Punctul de Videre Medical, Economic şi Național*. 225, 250, 272.

Half a century later, the fierce indictment of another medical man against the complacency of the public opinion and the state towards the imminently-perceived danger of degeneration struck notably similar tunes on the close relationship between diet and the degeneration showing the remarkable consistency in the formal conceptualization of the centrality of diet among the causative agents within the medical opinion:

> And subsisting on such a diet exclusively vegetarian for 194-300 days per year, children between 2-5 years do not receive other food - being fasting days for 194 days - than that reduced to a minimum of azoths, overwhelming their stomach with enormous quantities for such an early age. It is surprising that the rate or mortality is not bigger than 46% as it is today. And we may wonder, what is the first step, the first impulsion, towards alcoholism if not the same dreaded proportion of 1:10, associated with the monotony of the foods, the lack of natural stimulants, insufficiency of the potential energy. Unable to relieve itself from the physiological misery, he turns towards alcohol, even more because alcohol produces for a moment that state of saturation which his food will not provide…Solely statistics impartially shows the effects of such a living: high mortality, increase inaptitude for the military service, decrease in body size, diminution of the labor power.[22]

To a certain extent, the frequent recurrence of the dietary problem within the degeneration of the race narrative can be explained by the volatility characteristic to such an ambiguous field of inquiry as that of proper nutrition. The failure of state's efforts in rejuvenating the race by policies, having the theory of improper diet as the very core of their improvement strategy under conditions of quasi-unanimous acceptance of the formal link between them, sparkled numerous reactions indicting the manner in which the flaw in nutrition was conceptualized, especially as there was no hegemonic theory of proper nutrition accepted by a majority of the medical community during the relevant timeframe. Under conditions of a loosely defined and all-inclusive theory of how a proper diet should be constructed in order to be physiologically correct, coupled with diametrically opposed opinions on the nutritional value of each food item, any measure of the state to improve the peasants' nutritional practices with perceived ineffective results easily lead to a renewed conceptualization of the problem along the lines of another theory pointing to presumably another mischief in the diet. This was the particular case of the corn-wheat dispute and of the

[22] Adrian Urbeanu. *Îmbunătățirea Alimentației Țăranului Român*. 31-32.

entire controversy surrounding the opportunity of switching from mămăligă to wheaten bread as the main component of the peasants' diet, as it employed precise conceptualizations of the dietary problem of the peasantry with a theoretical substratum supporting each side that mutually excluded the other as false. This debate was inflated by the escalating pellagra problem around the turn of the 19th century and its result had a considerable bearing on the peasants' dietary habits, as the victory of the wheaten bread supporters was enshrined in the prophylactic measures adopted by the state in tackling the disease. On the other hand, the overwhelming variety of opinions on proper diet held by the medical personnel all converged in generally quite similar configurations and constructions of the peasants' diets in respect to secondary foods, regardless of the differences from the theoretical level or in the precise prescribed amounts, assuring the homogeneity of the solution proposed for the improvement of the peasants' diet in view of its relationship to the degeneration process. It is in many cases impossible at the practical level to separate in strict categories between proposals of nutrition improvement focusing solely on core foods or on secondary foods, as almost any theoretical based construction of the ideal peasants' diet tackled the problem as a whole, reviewing and advancing suggestion on every food component, with only added emphasis on one particular item. However, the nutritional value of the 'core' foods formed the crust of the controversy surrounding the etiology of pellagra in view of the special relationship ascribed to corn within the causative factors on the one hand, and of the more energetic measures adopted by the state in checking the disease, adding a note of practicality and pragmatism conditioning the construction of ideal types of diet in view of existing circumstances and possibilities for translating them into reality on the other hand. Overall, as the debate on the opportunity of performing a change at the level of core foods was more intense within the context dominated by the discussions surrounding the pellagra problem than by those attached to the dietary factor in the degeneration process as a whole, I have decided to operate an approximate

categorization of the various medical solutions to the nutritional problem in view of their special emphasis on foods items pertaining to core or secondary items. Consequently, the theories pointing to flaws in the dietary patterns at the level of secondary foods will be discussed as an integrated part of the degeneration of the race debate, while those focusing on the nutritional value of core foods will be analyzed within the contextual framework of emerging concern over pellagra.

Based on more or less accurate and exhaustive surveys of the peasants' diet round the year, the medical personnel concerned with pinpointing the major flaw in nutrition responsible for the degeneration of the population recognized quasi-unanimously that the peasants' diet is composed almost entirely from vegetarian food items with an extremely low intake in animal foodstuffs and particularly of meats. In view of such a profile, their remedies were homogenous in advocating for an increase of the animal components' portion in the overall diet, with only slight differences in marginal aspects as the amount of that increase or the particular food item that would be responsible with setting the diet within normal physiological bounds. Nevertheless, such small departures from the central feature of the recipe are important to note as they increased or decreased the attractiveness of the proposed ideal diet in relation to the costs implied by its application, a key point in the success of their attempts to reform the peasants' dietary patterns of which the medical personnel were well aware.

In 1871, Obedenaru argued in his popular treatise *On fevers* that susceptibility to this kind of diseases as well as the overall health and condition of the organism are influenced in an important measure by the quality of their nutrition: 'The debility of the Romanian peasant is due to in part to insufficient food. Mămăliga, butter milk and legumes are not enough to give power to the organism, in the same manner as straws are not enough to give power to a

horse who does not eat neither hay nor barley, just straws.'[23] What Obedenaru understood by 'hay' and 'barley' was precisely bread and meat products and other animal foodstuffs as confirmed by Istrati's comments on this particular fragment, even more so as: 'butter milk is eaten only during non-fasting days. During fast, the peasants' diet is even more deplorable; sour cabbage and bean or lentil, bean or lentil and sour cabbage! With this food someone may still be healthy if he would live in a country free of diseases and if he would have nothing to work.'[24] Expending on this topic, Istrati considers Obedenaru optimistic in ascribing such a 'variety' and 'quality' to the peasants' diet: 'Doctor Obedenaru forgets that such an alimentation is exceptional and that frequently garlic sauce, onions, mushrooms, cucumber, mămăliga alone, borsch of unripe prunes, are the only food items that many consume even when it has to work the hardest, at weeding, reaping or mowing.'[25] Even allowing for the usual medical men's prowess to exaggerate their accounts, most surveys on the matter agree on the centrality of vegetal components in the peasants diet not only during fasting days, which covered more than half of the year, but even when religion did not prohibit them to consume animal products because of their low economic standing. Manolescu's expertise of the peasants' diet developing on personal observations and reliable sources such as descriptions made by medics in close relation with the peasantry or by teachers from rural communities reinforces the general image offered by Obedenaru and Istrati: 'To eat onions with mămăligă, leek with mămăligă, garlic with mămăligă, gruel with mămăligă, green cucumber with mămăligă, prune borsch with mămăligă, grape leave with mămăligă, examples that we see commonly in every region of the country, is to eat along the lines of a poor vegetarian dietary system and consequently to be like an herbivore, feeding only with cut,

[23]Georgiade Mihail Obedenaru. Op. cit. 9.
[24] Ibid.
[25] C.I. Istrati. *O Pagină din Istoria Contimpurană a României din Punctul de Videre Medical, Economic şi Naţional*. 269.

grounded or boiled vegetables.'[26] Even during non-fasting periods of the year, the peasants' diet includes a minimal amount of animal products maintaining its overwhelmingly dominant vegetarian character: 'The food of the working peasants, today, generally, both during fast and non-fast days…is insufficient, because in his ordinary meal the animal component is poorly represented…Indeed, the villager does not eat anything without mămăligă and in many cases eats only mămăligă…in general I can say, that in the peasants' household the quantity of dairy products is much smaller than it should be,'[27] only vegetables being eaten in abundant amounts. Furthermore, Urbeanu's breakup of this monolithic general image of the peasants' diet irrespective of regional or socio-economic factors into separate analyses following the classifications employed by the state agrarian legislation - codaşi, mijlocaşi and fruntaşi - in view of the amount of land granted or owned by each category yields similar results for the first two groups with the label of improper diet due to over consumption attached to the third:

> The poor regime as well as the regime of the peasant with middle income, considered by averaging the fasting and non-fasting days within a year, is the type of alimentation insufficient because of its low content –under the values of Voit, in the poor regime under Rubner's value for the physiological minimum of azotes…is an unhygienic type of alimentation because of its marked vegetarian character and of the huge volume ingested; by and large, is the type of alimentation which you won't find anywhere else save in the case of the poorest peasants from Germany or Italy.[28]

Likewise, Urbeanu identified the deficient intake of animal foodstuffs as the main flaw of the peasants' present configuration of the diet, offering in support of this argument a statistically-based estimation of the amount of animal products available to each individual for his own consumption under the most favorable circumstances: all the foodstuffs available in the country, except wheat, are consumed intra-boundaries and not exported and there is no

[26] Nicolae Manolescu. *Igiena Ţăranului, Locuinţa, Iluminatul şi Încălzitul ei, Îmbrăcămintea, Încălţămintea. Alimentaţiunea Ţăranului în Deosebitele Epoce ale Anului şi în Deosebitele Regiuni ale Ţării [The Peasant's Hygiene, Household, its Lighting and Heating, Clothing, Shoe Wear. The Peasant's Alimentation in the Various Times of the Year and in Various Regions of the Country]*. (Bucharest: Lito- tipografia Carol Gobl, 1895) 306.
[27] Ibid. 305, 271, 266.
[28] Adrian Urbeanu. *Îmbunătăţirea Alimentaţiei Ţăranului Român* 33.

difference in consumption of secondary items between cities and villagers. Even allowing for such premises, the per day peasants consumption of secondary food items will amount to an insufficient intake of animal products determining the author to conclude that: 'if one fifth of the countries population eats properly, there will not be sufficient nutritive substances for the other four fifths'[29] pointing to the severe shortage of animal products within a cereal-based economy.

The deficiency in animal products in the overall diet was further aggravated by the specific preference given by the peasants to food items from the category of vegetables and herbs, accounting for the second bulkiest article of consumption in the overall diet, with perceived low or no nutritional value. In their analysis of the nutritional characteristics of each article composing the peasants' diet, the medical men spoke highly only of beans as suggested by such denomination attached to it as 'vegetal cheese' or vegetal equivalent of meat, and in a lesser degree of lentils and peas. Together with the 'core' food, these are considered to be the main nutritional pillars of the peasants' diet, as the impact of the rest of the vegetables like cucumber, onions, cabbage, garlic, leek or pepper on the overall value of the diet is negligible, if not altogether negative.

Such considerations over the proper or improper composition of the peasants' diet necessarily imply the existence of a set of criteria governing the value judgment. As mentioned in the introductory pages, the medical men's encounter with the rural world was mediated and conditioned by their specific training and interest generating a discourse on the peasantry employing peculiar medical themes and topics and amounting to a pervasive medicalisation of even the most intimate aspects of the peasants' existence. The range of particular aspects brought under the medical's personnel observation and analysis depended ultimately on the particular postulates forming the dominant theory of health and disease

[29] Idem. *Hrana săteanului român în cei din urmă 40 de ani*. *[The Peasants' Diet during the last 40 Years*]. (Bucharest: Imprimeria Statului, 1906), 15-16.

upheld by them with changes of emphasis accompanying the changes in the paradigmatic model. Within a particular setting of theories governing the understanding of the optimal health status of a population and of the deviations from this ideal state underlining the importance of predisposing agents in preventing or triggering diseases coupled with the conceptualization of almost every aspect of the peasants life - clothing, housing, shoe-wear, nutritional patterns in various times of the year in view of the religious fasting calendar and of the amount of labor tuned on the biological lifecycle of its agricultural enterprise, hygienic practices and cleanliness - as a variable in the overall calculus judging over the state of the organism led to a medicalisation of all this intimate aspects and inaugurated a normative discourse regulating the 'proper' peasants' attitude and practice towards all this aspects. In the particular case of nutrition, under conditions of its privileged connection with the degeneration of the race and miasmatic theory of diseases, the medical personnel hastened in providing analyses and advices on the general value of the diet and the means of improving it, usually resorting to already established Western theories on the ideal diet and naturalizing by application the conceptual frameworks when tackling the question of the nutritional value of the peasants' diet. The precepts of these nutritional theories, by emphasizing its connection to the overall health status, directed the medical men's attention towards the peasants' dietary practices and conditioned their opinion on its character and value sparking an impressive amount of papers in the second half of the 19th century on this central theme of the medical discourse. It would seem thus that the intersection between the amount of information gathered on the peasants' diet as a result of the preconceived marked interest of the medical men on such a topic due to its importance within the overall theory of health and the disturbing reports on the general state of the population constructed by employing the same theoretical and external categories judging over the 'normal' or 'abnormal' character of a phenomenon helped fuse the link between improper diets and the degeneration theme.

As the character and value of the peasants' diet were assessed within the theoretical framework provided by Western European medical communities' understanding of the functions and nature of the nutritional process resulting into a determined conceptualization of the alleged flaws in nutrition, naturally the remedies were thought off within the confinements imposed by that particular understanding of nutrition. An assessment of the impact of such theoretical limitations on the medical men's choice of items to be included in various amounts in the diet in order to be physiologically correct has its relevance in pointing out the tension existing between the medical dietary recommendation and the socio-economic and cultural conditions of the people targeted by them, as well as to their painstaking efforts of coming up with low-cost and attractive suggestions for improving the overall diet, while still maintaining the scientific value of their recommendations within proper bounds. In this sense, the medical writers' opinions on the improvement of the peasants' diet will be presented in parallel with the nutritional theory offering the conceptual framework within which they were articulated, in order to provide a better understanding of the strict medical requirements for improving the diets, free of such considerations as economic or cultural factors which usually contaminated the actual suggestions.

An analysis of Istrati's set of recommendations for the improvement of the peasants' nutrition has particular significance in view of his joint formation as chemist and doctor while nutritional theories were being developed almost exclusively within the biochemical branch of study, and of his frequent direct contacts with the French academic community arguing for his awareness of the most recent developments from this field, thus enabling the formation of a general picture with a high degree of relevance for the state of the nutritional studies around the 1880s. Overall, Istrati considered that a marked improvement to the dreaded nutritional value of the peasants' diet can be achieved by increasing the amounts consumed of secondary

food items pertaining to the 'animal kingdom' such as milk and its derivate products, meats and eggs:

> Meat is an absolutely necessary dietary item for the individual who works hard. It can easily account for the losses of the organism.…I am convinced that when meat will be taken together with mămăligă, the peasant will be healthy, very active, uninfluenced by miasmas and much more importantly, will stop being a drunkard…Cheese and milk for us are one of the principal vital elements that should be procured for the agrarian population. Unite mămăliga with cheese and change the face of the country. To this they can add whatever they desire, but this should not be missing.[30]

Animal products held such importance in his reconfiguration of the peasants' diet due to their rich content of azotes[31] in view of the privileged position of these compounds among the nutritive substances present in foodstuffs:

> We have seen how much the rural population complement mămăliga with fundamentally nutritive substances, because of the azoth substances they contain, and which they take from the animal 'kingdom'…Associate azoth substances (meat, cheese, eggs, milk) to mămăligă, and you will give blood to the Romanian, you will increase his individual strength and of his Nation, will extend his family and increase the number of the population…Among the substances fundamentally rich in azotes and as a consequence substantial and nutritive, being at the same time also easily digestible, we have eggs and milk with the foodstuffs prepared from them: sour milk, butter milk, cheese, butter.[32]

Concerning his theoretical affiliation, Istrati adhered to the contemporary general classification of the nutritive substances found in foodstuffs into the three major groups of azotes, carbohydrates and fats along with the emphasis placed on the first group as the principal component within the vital process conceptualized within the theory of the necessary equilibrium between bodily 'expenditures' and 'replenishes' at the level of azotes. The azoth substances (quaternary azotized substances) was the term used to designate protein or albumin components and differentiate them from fats and carbohydrates in view of their higher content of azoth, and referred to the 'plastic' group of substances found in foodstuffs responsible with the 'support of the body flesh and blood and its renewal', while the other two

[30] C.I. Istrati. *O Pagină din Istoria Contimpurană*. 249, 253.
[31] Ibid.
[32] Ibid. 259, 250, 255.

groups, termed 'respiratory foods', were 'the source of animal heat through oxidation.'[33] Further experiments on animals conducted by Magendie and Liebig proved the necessity of azotes intake for the sustenance of life inaugurating further developments on the issue of the exact minimal amount needed for the maintenance of physiologically proper functioning of the body. Although both writers asserted that azotes can be found both in plants and in animal components and that there is no structural difference at the chemical level between vegetal and animal protein, the general view was that animal foodstuffs have higher concentration of azotes or at leas contribute in a higher degree to the equilibration of the bodily level of azotes in view of their higher digestibility within the metabolic process[34]:

> The process of nutrition in graminivourus animals appears at first sight altogether different. Their digestive organs are less simple, and their food consists of vegetable, the great mass of which contains but little nitrogen. The nutritive process in the carnivora is seen in its simplest form. This class of animals lives on the blood and flesh of the graminivora; but this blood and flesh is, in all its properties, identical to with their own. Neither chemical nor physiological differences can be discovered.[35]

All these data was gathered together and connected with the nutritional practices and physiological health within the theory of the necessary equilibrium between the intake and outtake of azoth substances centered on the idea that in mature organisms the quantity of azotes taken from foodstuffs should be equal to the quantity eliminated by the organism. A disequilibrium in favor of the intake suggested that the body was producing tissue and muscles, processes connected with the growing stage of the organism, while if the difference was in favor of the latter it meant that the body was not able to repair or produce tissue suggesting that the internal organs are not able to function properly, while a furthering of this misbalance could possibly even lead to death. Developing on this theory, nutritionists endeavored in advancing hypotheses on the amount of azotes a mature individual has to daily

[33] Melville Sahyun (Ed.). *Proteins and Amino Acids in Nutrition*. (New York: Reinhold Publishing Corporation, 1948) 6, 13.
[34] Ibid. 23.
[35] Ibid. 18.

provide to his organism in order to maintain its levels in balance by calculating the amount needed for the organism to renew its tissues and organs through the determination of the actual amounts used by the organism on the basis of measurements done at the level of bodily residues. The essence of the theory of the bodily economy of azotes furnished nutritionists from the second half of the 19th century with a theoretical framework for tackling the problem of the propriety of particular dietary patterns regardless of the recurrent controversies over the actual function of azoth substances and their place in relation to fats and carbohydrates, the chemical or structural identity in view of their vegetal or animal provenience, the minimal level of azotes required by a mature organism or the precise content and properties of azotes from various foodstuffs. Transplanted to the Romanian case, such debates were most heated within the corn-wheat controversy occasioned by the intense discussions over the etiology of pellagra, while the considerations over the appropriateness of increasing the consumption of secondary foodstuffs was only marginally touched and influenced by these theoretical discussions. The major developments and refinements brought to this theory within the post-1880 debate over the nutritional value of the peasants' diet will be chronicled when surveying the explicit improvement suggestion prevalent in the first decade of the 20th century, including those proposed by another chemist, Urbeanu Adrian, and the revised and re-conceptualized recommendations of professor Istrati.

Within the particular theoretical framework prevalent in the 1870s and 1880s, the medical personnel observing an acute absence of animal products from the peasants' diet, concluded that the main flaw of their nutritional practices lays in the insufficient intake of azoth substances as the food items with the highest content were missing from the overall diet and in the absence of yet still pending studies on the minimal amounts required by the organism, they considered that the amount taken from their quasi-exclusively vegetarian diet is altogether insufficient for covering the bodily daily 'losses': '..an alimentation is

insufficient when the ingested and utilized foodstuff is not proportional with the bodily losses.'[36] In view of these theoretical assumptions, Istrati argued for an increase in the animal foodstuffs, and particularly of milk and eggs which he regarded on the basis of their high content of azotes as 'complete aliments': 'Eggs are part of the natural type of complete foodstuffs, because it is capable by itself of supporting the evolution of the embryo, the formation of animal tissues, muscle, tendons, bones, skin. etc. Milk has much the same properties as eggs. Meat even, I would not require if I would know that the peasant would have cheese, eggs and fish.'[37] Istrati was joined in his debunk of the contemporary construction of the peasants' diet by the leading Romanian doctor Jacob Felix who argued for a reconfiguration of their nutritional practices on much the same lines as those suggested by the former. A summary of these recommendations is included in the introductory paragraph to the chapter 'On the proper choice of foods' from his popular *Advices on the Peasants' Diet* in which he argued that:

> Beef and chicken meat, eggs, milk, cheese, fish are much more nutritive than legumes; people who eat meat, eggs, milk, fish have more strength, work better and are generally healthier than those who eat only plants, herbs or legumes. It is enough to eat a smaller amount of meat, chicken, eggs, cheese, fish than legumes of which we have to eat a lot, to fill our stomach in order to be satiated, and this overwhelming of the stomach weakens the body, makes us bulky, unsuited for work. Meats, milk, cheese, fish, eggs, are better digested than mamaliga by itself or taken with plants, herbs.[38]

As a theoretically insignificant departure from Istrati's recommendations, Felix considered milk as the nutritive food item per se around which the peasants' diet should be organized, picking up and developing this claim twenty years later in a brochure intended to popularize his views on the nutritive quality of milk and on its hygienic production and proper conservation:

> Milk gives us the most precious food for children as well as for grown-ups; children cannot grow without milk and many children die before their time because milk is not provided to

[36] C.I. Istrati. *O Pagină din Istoria Contimpurană a României din Punctul de Videre Medical, Economic şi Naţional*, 260.
[37] Ibid. 256.
[38] Iacob Felix. *Povete despre Hrana Tăranului. [Advices on Peasants' Diet]*. (Bucharest: Biblioteca Populară) 6. The same argument is found also in his, *Elementary Textbook of Hygiene*, 21.

> them[39]…Milk is the most precious among foodstuffs. We cannot live by eating meat alone, but besides meat we eat bread or mămăligă and legumes; but we can live by consuming milk alone without any other addition to our diets, and small children that do not receive any other foodstuff but milk, grow and remain healthy…For the advancement of the Romanian people it is necessary an increment in the production and consumption of milk, and to benefit of this increase not only the city dwellers but also the villagers. [40]

Although Felix did not explicitly state the theoretical foundations for his recommendations incorporated into the two works quoted above in due consideration of their nature and purpose of disseminating his nutritional suggestions among the rural population, his affiliation to the azoth equilibrium theory can be inferred from his argumentation in favor of the nutritional and reparatory value of corn from a chemical point of view because of its high content of azotes and fats, of the easy digestibility of mămăligă and against the conception that pellagra is a consequence of the insufficient intake of azotes that does not cover the bodily daily expenses. Such considerations are important in demonstrating that the Western European biochemical nutritional theories found a fertile ground in the case of the Romanian controversy over the nutritional value of the peasants' diet and argue for a theoretical uniformity for such debates assured by the quasi-unanimous acceptance of the azotes equilibrium theory within whose confines the disputes usually raged.

However, in spite of the theoretical identity powering the recommendations of the two authors, their specific emphasis on one food item from a spectrum of possibilities as well as their different particular choices underlines the admixture of wider considerations pertaining to the socio-economic and cultural levels within the process of dietary reconfiguration. Istrati's choice for an increase in the number of eggs in principal and of milk with its derivate products and the comparatively low emphasis on meat consumption in constructing his ideal diet suggests the influence of economic factors such as the expensiveness of meat and the low

[39] Iacob Felix. *Povete despre Hrana Țăranului*. 15. Idem. *Manualu Elementar de Igienă. [Elementary Textbook of Hygiene]*. (Bucharest: State Tipography, 1885, 1890) 24.
[40] Iacob Felix. *Laptele. Puterea sa ca hrană şi producerea lui. [Milk. Its Nutritional power and production]*. (Bucharest: Biblioteca Populară, 1902).

labor and land requirements of chicken breeding in determining the specific proposed configuration of this diet even as this practical approach may lead to less a perfect final result from a nutritional viewpoint.[41] Likewise, Felix's recommendations for increased consumption of milk are supported by specific recipes for economically providing the peasantry with the increased amounts by advocating the introduction of less demanding milking animals like sheep or goats, of carefully selected breeds of cattle supplying a greater quantity of milk or a rough specialization of different climacteric and topographic regions not suited for crop cultivation in cattle breeding and commerce with the cereal growing regions.[42]

The theoretical basis for Manolescu's suggestions of increased consumption of animal foodstuffs is less refined and complex having as its core criterion for judging the appropriateness of a particular diet, the degree of admixture within the diet of elements pertaining to all three natural kingdoms - animal, vegetal and mineral:

> This improvement will be complete when the peasant will be able to procure all the required substances necessary for a worker and when his every meal or diet will have a mixed character, that is will be composed of substances taken from all three of the nature's kingdoms; and not as they are today, that seems to have as a purpose that, after having given strength and energy for a certain period, to give weakness and meekness, through fast and abstention from foods of animal origin.[43]

Within such an understanding of the deficiency of the peasants' diet, Manolescu's advices were gauged on a two-fold policy of reforming the fasting calendar and of enabling the peasant to increase the consumption of animal foodstuffs.[44] However, Manolescu's emphasis on the need of proper regulation of the intake of minerals would be later developed into an important stream of nutritionist literature on the exact bodily requirements of such substances and the consequences of their absence.[45]

[41] C.I. Istrati. *Pagina din Istoria Contimpurană.* 253; Idem. *Cum si cu Ce trebuie să ne hrănim. [How and What should We Eat]*. (Bucharest: Biblioteca Română, 1907) 58.
[42] Felix. *Poveţe despre Hrana Ţăranilor*. 15, 20.
[43] Manolescu. *Igiena Tăranului Român.* 305.
[44] Ibid. 306.
[45] Urbeanu in *Probleme sociale* suggests as the possible cause of pellagra precisely this lack or improper mineralization of the body.

Beginning with the first decade of the 20th century, the nutritional theory became more sophisticated as the value of fats and carbohydrates within the metabolic process started to receive increased attention and the azoth theory underwent significant developments conceptualized at the level of precise prescribed amounts of azotes for individuals, as well as in the analysis of the properties and content of the nutritive substances from vegetal products relative to those from animal foodstuffs leading partially to an undermining of the place of meats within the nutritional theory. As a transitional text registering very well the new developments in the field, Ioan Kalender's introduction to Felix's book *Milk and its Nutritive Power* presents a peculiar admixture of old and new opinions on the topic of the peasants' diet. Consistent with previous theories, this author emphasizes the need of replenishing the losses of the organism by ingesting foodstuffs with plastic or reparatory functions but in addition highlights also the need of optimal supply of 'caloric' or 'combustible' substances responsible with the energy and heat produced by the organism. In view of these requirements, the peasants' diet should ideally include mostly 'complete' food items, referring to those foodstuffs 'capable of maintaining the health state and the regular functioning of the organism':

> From these there can be seen that those underlined as: cow milk, eggs, cheese, bread, legumes (lentils, beans, peas) are complete aliments, because they contain in sufficient quantity all the three kinds of substances required from food, that is: 1. those so-called plastic or albuminoidal or protein…2.combustible or respiratory…3.water and some indispensable mineral substances…Beef or fowl meats, fish and eggs are not complete foodstuffs; in order for them to become truly nutritive we have to associate them with bread or mămăligă, whilst milk comprises all the nutritive elements.[46]

In spite of the author's recognition of legumes like beans, peas or lentils as 'complete' foodstuffs, he considers appropriate to profess his disassociation from the 'vegetarian movement' arguing in favor of a reconfiguration of the diet, including in a balanced manner as many and varied 'complete' food items as possible, a request necessarily implying the use

[46] Jacob Felix. *Laptele. Puterea sa ca Hrană şi producerea lui.* V-VI.

of meats and animal products, as can also be inferred from his suggestions of the methods best suited for transplanting his ideal diet into reality:

> I am not for vegetarianism, because it has been proven that mixed diets are most beneficial and appropriate, I just wanted to emphasize these details for those who commonly explain these irregularities from this particular matter of affair by pointing to the lack of meats, especially in the case of the rural classes, of the peasants…So, in speaking generally, the keeping of a milking cow, of some fowls and two pigs in their courtyard, the maintenance of a garden for legumes, vegetables and fruits, will provide them during the whole year with sufficient and good food and will protect them from many perils and especially from diseases, which cause wastes of time, of earnings and other troubles.[47]

Such new trends have been given a more refined interpretation in Urbeanu's writings on the topic of proper nutrition from a biochemical standpoint, a survey of his approaches enabling the depiction of a general picture of how the recent developments from the field of nutrition have been integrated, synthesized, adapted and applied to the Romanian case as well as an estimation of the impact of these cut-of-the-edge theories on the general process of diet reconfiguration. Although Urbeanu was more involved in the heated debate over the etiology of pellagra which reached its apex precisely about the time he publicized his theories and, within this specific context, was engaged in skirmishing fight with the proponents of the displacement of corn with wheat, his doubts about the opportunity of such a shift directed his attention towards an overall analysis of the character and value of the peasants' diet, with the intended purpose of identifying its main flaws in view of the conceptual tools provided by the recent developments from the nutritional theory which, he believed, constitute the true causative agents in pellagra. Benefiting from precise calculations on the standard amount of azoth substances required by a mature organism, Urbeanu concluded that the dietary mischief of the larger part of the population was precisely this deficiency in azoth substances intake below the limits proposed by nutritionist experts:

> Among the shortcomings inherent to the peasants' nutritional custom, two are most nefarious: The lack of azoth and fat substances, and the extremely primitive method of preparing foods, from which cause the peasants' meal is monotone, indigestible, and substantial to a small degree …[48]Any diet, containing fewer than 90 grams azoth materials, the organism weighing 70

[47] Ibid. VIII
[48] Adrian Urbeanu. *Caracteristica Alimentației Tăranului Român*. 27,

> kilograms, it is not capable of maintaining for a long time the proper state and energy of the body, not even when it contains a sufficient quantity of calories. The minimal quantity of azoth materials is 1.3 grams for each 1 kilogram of the bodies weight under conditions of average digestive absorption, meaning in other words that the diet should be mixed without the vegetal components predominating…[49]

As important for assessing the propriety of a particular diet may be the accomplishment of the minimal standard of azoth substances, a marked disequilibrium in favor of any side between the amounts of azotes and the quantity of carbohydrates and fats ingested may render a dietary pattern irrational and unhealthy. This was particularly the motive for the labeling as improper of the nutritional practices of the wealthy stratum of the peasantry and had at its basis the theory on the appropriate ration of 1:5 between the vital components of the food items:

> This anomaly is caused by the disproportion at the level of azoth substances. Within a properly composed alimentation, the proportion between the azoth substances and assimilated carbohydrates is 1: 4.6 and that between azoth and non-azoth substances is 1:5. In our case this proportion is 1:10 and 1:11, meaning that the azoth substances are reduced to half…[50]What does it mean the proportion of 1:10? It means the apex of azoth misery; it is the expression of the physical and intellectual death of the population found only in the cases of the most decayed classes of the world. There is no civilized country in which 5 million inhabitants out of 6 have predominantly in their diets the proportion of 1 azoth to 10 non-azoth substances.[51]

Marching along the lines of this theory, although Urbeanu considers that a diet exclusively composed of good quality corn could maintain the organism in azoth equilibrium, even if not at a level above the proper limit indicated by nutritionists, and from this perspective presumably in good physiological health, the author does not recommend such a diet in view of the disproportional character it presupposes, especially between azoth substances and carbohydrates. In order for a diet to provide both the optimum amount of azoth substances and to remain within the limits of a proper proportion between the azoth and non-azoth substances, it must include food items with high content of azotes relative to carbohydrates or fats. Food items of animal origin are ideally suited in this sense, as they contain in concentrated and proper proportions all the components needed by the organism and as the

[49] Idem. *Hrana săteanului Român.* 18.
[50] Adrian Urbeanu. *Îmbunătățirea Alimentației Țăranului Român.* 27.
[51] Idem. *Despre Caracteristica Alimentației Țăranului Român.* 18.

variation they bring to the diet contribute to the higher digestibility specific of mixed diets, thus ensuring a more intensive use of foods by decreasing the amount of azoth remaining undigested. On this basis their absence from the contemporary diet represents the main flaw of the peasants' dietary practices: 'In our country there is no meat, milk, cheese and legumes in sufficient quantities for satisfying the nutritive physiological requirements of the rural population…And because cheese, milk, are alimentary substances of the more condensed type, and milk is indispensable in the child's nutrition, the decrease of their quantity within the overall diet represents an unrepairable regress in health of the population.'[52]

From a strictly and ideally nutritional perspective, the improvement of the peasants' diet should necessarily take the form of increased consumption of animal products, but the value of a certain strategy of improvement was also asserted in view of the feasibility of the entire project under conditions of a certain socio-economic and cultural context. In this regard, Urbeanu's recommendations, for the introduction of soy-bean as a peasant crop and food item, represent the most eloquent example of the compromise needed to deflate the tension between high nutritional configurations of the diet and particular local conditions. In the author's opinion, the introduction of soy-bean would represent a wonderful addition to the peasants' diet because of its capacity of supplying in the cheapest manner the deficient amounts of azoth substances characteristic of the contemporary configuration of the diet with the added advantage of showing a high degree of versatility in preparation, assuring its easy acceptance by the population as it was considered capable of being presented under the form of most of the substances associated with mămăligă within the traditional peasants' dish. Overall however, Urbeanu acknowledged that his soy-bean solution is just a surrogate from a nutritional perspective for other, more nutritional, substances that under a certain economic

[52] Adrian Urbeanu. *Hrana Săteanului Român în cei din urnă 40 ani*. 2, 18.

and social context cannot be introduced in sufficient amounts in order to have any tangible improving effects on the peasants' nutritional habits:

> But I was unable to translate this proposal into practice because of the unfavorable current formed against soy-bean on the grounds of the superiority of foodstuffs of animal origin. "Not soy-bean, but meat, fish, eggs, milk, cheese!" This playing with the words is mot nefarious. I am the first one to recognize the nutritional superiority of: meat, fish, eggs, milk, cheese. But in their absence what is to be done? Should we let the peasant suffer from inanition while hoping for a better future? Or should we intervene with what we can, so he can recover? ...In our case especially, it was employed the strategy of improvement through advices, counseling the peasants to eat more meat, fish, eggs, milk, without him being actually able to acquire them, to make use of their nutritional power…From all the foodstuffs the only one capable of supplying with a minimum of pecuniary expenses, the lack of azotes and fats, is soy-bean…This is way soy-bean and not meat, eggs, milk and cheese.[53]

From this point on, the discussion concerning the improvement of the nutritional value of the secondary food items intersected with, and was included into, the wider debate over the dietary character of pellagra.

[53] Ibid. 3-4, 31.

5. MEDICAL THEORIES ON NUTRITION (II): ENTERS PELLAGRA

A survey of the emergence and effervescence of the medical discourse on pellagra in the second half of the 19th century, in view of its impact on the reconfiguration of the peasants' diet, poses some analytical and methodological problems which cannot be easily surmounted. The major problem lays in the artificial character of the dissociation between the discourses on pellagra and on the degeneration of the race, as in practice, the former was often subsumed and formed an asset of the all-inclusive phenomenon described by the latter. Furthermore, when they appeared in the medical literature, as parallel discourses on the situation of the peasantry, they often employed symbols interchangeably making it very difficult to disentangle a specific repertoire of topics and themes peculiarly attached to one of them. Rather, what it is usually encountered in a comparative analysis of these discourses are shades of emphasis on a particular element, various degrees of cohesiveness and specificity and different levels of politicization and socialization. However, particularly these differences, almost insignificant within the strict medical discourse on proper nutrition, were crucial in boosting the state's intervention for the reformation of the peasants' dietary practices and ultimately placed its policies under the sway of the medical personnel's understanding of pellagra, against which the majority of these policies were enacted in the first place. In view of this increased politicization of the pellagra problem relative to the degeneration of the race theme, the distance between the particular configurations of diets proposed as remedies for these phenomena widened as the small differences in emphasis in the conceptualization of the particular nutritional mischief attached to each of them were magnified by the state's particular focus on this differences, within a pragmatic approach of implementing a solution for tackling pellagra. Under such conditions, a separate study emphasizing the theoretically negligible departures from the customary discourse on proper nutrition in conceptualizing pellagra represents a useful analytical tool in approaching the

discussion of the character and profile of the state's intervention, within the overall attempt of assessing the particular direction its policies imprinted to the process of dietary reconfiguration. Additionally, the increased politicization and socialization of pellagra relative to the degeneration of the race theme must be accounted for, in an attempt of reconstructing the general features of the negotiation process governing the state's selective attitude, adoption and adaptation of the medical recommendations conceived off as the basis of its hypothetical rational behavior of favoring one direction or field of action to the detriment of others.

Within a comparative analysis of the two discourses as an overall framework, I will start with an overview of the common symbols and topics employed within the social and political discourses, doubling the strictly medical one, followed by an interpretation and assessment of their differential appeal among the political community seen as a consequence of some distinct medical conceptualization of each deviation. Intercalated in this general overview of the process of socio-politicizing the medical discourse on pellagra will find its place a detailed review of the various and frequently mutually-exclusive nutritional recommendations proposed by the supporters of one or the other theory addressing the etiology of pellagra under the conditions of a common platform for the debate (provided by) in the quasi-unanimous acceptance of the nutritional character of the disease. Ultimately, the theoretical controversy over the specific causative agent of pellagra intersected with the growing concern of the state, in view of the increasing number of persons reported nation-wide as affected by the disease heralding the transplantation of the debate, from strictly medical boundaries to the wider framework of socio-economic, cultural and pragmatic factors implied by the requirement of a short-term and feasible solution to the escalating situation. Consequently, one particular conceptualization of the dietary mischief believed to be the cause of pellagra properly recalibrated in view of the existing conditions within the usual

process of negotiation between medical ideals and available means, was incorporated as the principle of the state's legislation against pellagra, defining and fixing the direction and nature of its intervention in reconfiguring the peasants' nutritional practices for the first half of the 20th century. A review of the particular solution adopted by the state in tackling pellagra as well as the particular mechanism governing the decision- making process offers an eloquent case-study of the close relationship between dietary patterns and socio-economic and cultural conditions along with the difficulties associated with any attempt of modifying the nutritional practices of a large part of the population because of the entanglement of various factors in forming and maintaining a certain distribution and configuration of food items.

Our present knowledge of pellagra defines it as a deficiency disease, caused by a severe lack of niacin, due to an improper diet characterized by an insufficient intake of foods high in niacin or tryptophan. The first account of pellagra pertains to Gaspar Casal who, around 1735, minutely described it in his Treaty surveying the medical situation of the Asturian population from north-western Spain. Regarding its etiology, Gaspar connects pellagra to the wide-spread and prodigious consumption of corn that he observed to be the constant feature of people afflicted by the disease and this union between corn-consumption and pellagra will provide the building ground for the majority of the theories attempting to elucidate pellagra. However, this well-established fact pertaining to the epidemiology of pellagra was conceptualized in a variety of ways ranging from suppositions of the disease being a food poisoning caused by a 'toxin' developed in spoiled corn or a deficiency disease due to the allegedly low nutritive qualities of corn as a foodstuff or of corn-based foods because of the improper means of preparation. This 'agnosticism' concerning pellagra lingered until 1914, when Goldberger provided the decisive break in the conceptualization of pellagra as a 'deficiency disease' although he was unable to identify the precise component

whose absence from the diets of the pellagrins triggered the disease. On the discovery of this particular component focused all subsequent studies of pellagra and in the 1940s niacin was discovered to be the micronutrient whose shortage was responsible for the development of pellagra. The relationship to corn was re-conceptualized within the model of deficiency diseases and in view of the recent discoveries as determined by the inability of the human organism to use the niacin content of corn through solely organic processes, due to a peculiar chemical arrangement of this component or to synthesize niacin in sufficient quantities from the plant's low content of tryptophan.[54]

Pellagra was first observed in the Romanian Principalities in the 1830s but started to capture the attention of the medical community just beginning with the 1860s, after the release of Doctor Theodori's *Dissertation Inauguralis Medica de Pellagra* (1858), the first important treatise describing and scientifically approaching the disease.[55] However, for the next two decades, the interest in the study and monitoring of the development of pellagra was kept particularly through the personnel efforts and surveys of Doctor Iacob Felix, as the estimated number of the sufferers was comparatively low for pellagra to evolve into an important topic of debate engaging the medical community. The change in perception occurred simultaneously with the advancement of the public health system deeper into the rural area which, enabled the collection of exhaustive information on the number of persons affected by the disease offering a glimpse into the real magnitude of the pellagra problem, and with profound developments at the economic level characterized by a marked decline of the number of animals relative to the total number of the country's population pointing to a deterioration of the population's dietary practices. The establishment of regular statistical

54 Conrad A Elvehjem. 'Pellagra: A Deficiency Disease'. Proceedings of the American Philosophical Society, Vol. 93, No. 4 (Sep. 9, 1949), 338; Daphne A. Roe and Stephen V. Beck. 'Pellagra' in Kenneth F. Kiple and Kriemhild Conee Ornelas (Ed.). The Cambridge World History of Food. Volume 1. (Cambridge: Cambridge University Press, 2000), 961

55 Iacob Felix. *Profilaxia Pelagrei. [Prophylaxis of Pellagra]*. (Bucharest: Tipografia Academiei Române, 1883), 249- 250 (21-22).

surveys conducted in order to record periodically the number of cases of pellagra reveal this general upward trend in spite of temporary setbacks linked to good harvests: in the firs half of the 1880s Felix estimated the number of pellagrins, based on hospital reports, to be around 4500 with the added provision that the total number decreased relative to the previous years.[56] The first official count in 1888 revealed a doubling of the number of cases amounting to approximately 10620 persons affected while subsequently the number subsided to 7531 in 1895 just to increase again to the staggering number of 43678 in 1904. Parallel to the official estimations, among the medical community circulated the opinion that the real number of the pellagrins would be actually considerably higher, somewhere between the values of 100000 and 150000 at a population of roughly 6000000 from which more than 4000000 fell in the category of the peasantry, the social class accounting for the overwhelming majority of the cases.

5.1.'A threat to the nation'

Constant publication of these surveys on pellagra, along with the appropriate medical warnings on the imminent danger posed by wide-spread pellagra, helped raise the public's awareness on the extent of its nefarious consequences, up to the point of being considered a 'threat for the nation'[57] and provide the topic of debate of the third Congress (1889) of the *General Association of the Country's Medics*, annual meeting of the medical community summoned with the precise purpose of discussing 'one of those sanitary issues, which, in view of its degree of seriousness, is a veritable social problem'.[58] In line with the professed purpose of the meetings, the previous two Congresses addressed the stringent health problems of Paludism and Alcoholism. However, the conceptualization of pellagra as a 'national threat'

[56] Felix. *Profilaxia Pelagrei*. 263 (25).
[57] Ioan Neagoe. *Pelagra şi Administraţia Noastră.[Pellagra and our Administration]*. (Bucharest: Tipografia Muncii, 1906), 19.
[58] Ioan Neagoe. *Pelagra în România.[Pellagra in Romania]*.(Bucharest: 'Dreptatea', 1899), 3.

in the attempt of mobilizing the political forces as well as the general public in a decided action against the disease followed the same pattern and employed much the same symbols as in the case of the assessment of the danger posed by the degeneration of the race process. Once more, it implied the investment of the rough statistical data with social, economic and even cultural meaning bifurcating the medical discourse in distinct but mutually enforcing narrative registers, one addressing specific medical topics like prevention, treatment, clinical signs of pellagra and another one, more visible, manipulating socio- economic and national concepts and symbols:

> Pellagra, this disease of some populations that subsist predominantly on corn and very often on spoiled corn, disease that affects successively the skin, digestive and nervous systems and ends with a general cachexia, makes numerous farmers unable to work or procreate, populates mental institutions and provokes economic perturbations in that class of citizens that represents the root of the national tree...[59]

As such, the medical discourse on pellagra focuses ambivalently on the individual in its hypostasis of suffer, of person afflicted by the disease undergoing the clinical changes inherent to its course but at the same time focuses on the individual affected by the disease in its quality of citizen, fiscal contributor or recruit, of the increased 'nationalization' of his body within the setting of the modern state in view of which pellagra comes to be conceptualized as a 'national threat': 'But the biggest loss pellagra produces is not through death, but through the physiological influence it fatally exercises over the race, the vitality of a people, bringing it slowly to individual and numerical degeneration, as well as to poverty, because the suffer is unable to work repeatedly and for a long time, and than of course his offspring will be more puny from generation to generation.'[60] At the level of the socio-economic discourse, pellagra dissolves within the degeneration of the race theme recycling within the framework provided by the disease the same symbols and concepts as those employed by the social and political component of the degeneration discourse, breeding new life into clichés like the decay of the

[59] Iacob Felix. *Profilaxia Pelagrei*. 3.
[60] Ioan Neagoe. *Pelagra în România*. 7.

peasantry - the root of the state - inevitably affecting the economic and military standing of the nation, the physical degeneration of the population coupled with high mortality rates and the debilitation of the future generations perpetuating and aggravating the degeneration phenomenon:

> Continuing in this way [through administrative neglect and insufficient measures], pellagra will unrelentingly expend and will jeopardize our existence, social, financial and national. We will constantly lose agricultural labor force, us, agrarian state. We will lose tax payers, us, state exposed to financial fluctuations, because pellagra, chronic disease lasting several years, brings its victim to the lowest economic standing. The number of various degenerates will multiply, weakening the replenishing stock of the army, which represents a tremendous danger for our state and the entire Romanian nation. We will be exposed to progressive degeneration. The number of our mentally disabled will increase at a frightening rate. Likewise, our morbidity and mortality rates will rise greatly, even more perilous as today they are higher than those of any other European state, a dishonoring situation for our administration.[61]

This specific construction of the socio-economic component of the medical discourse was tuned on, and fitted neatly into, the emerging narrative and modern ideology of the 'nation as organism' emphasizing the idea of the close interdependence between all the classes of society which provided the motive force for the overall state's intervention of modernizing the rural world and, implicitly, for the particular policy subsumed to this general plan of establishing a comprehensive and nation-wide public heath system. However, in spite of the identical features and character of the persuasive apparatus employed in gathering public and politic support for tackling the major problems identified by the medical personnel, the successfulness of such endeavors varied greatly in accordance with the specific medical themes addressed. In this sense, the effectiveness of the medical discourse in gathering political support for the recommendations prescribed by doctors in checking pellagra contrasts with the comparatively incomplete successes registered in politicizing the degeneration of the race theme. One of the reasons for this discrepancy is connected with the medico-theoretical conceptualization of each deviation, the degeneration of the race phenomenon denominating a compound of heterogeneous sub-phenomena related to each other only in view of their

[61] Ioan Neagoe. *Pelagra şi Administraţia Noastră*. 26.

common effect of debilitating the population, while pellagra was presented in the medical discourse as a specific, unique 'morbid entity' clearly delimited from other health disorders although included in the same 'degenerative' category of phenomena, because of its distinct clinical course and opinions on etiology. The problem with the degeneration of the race theme was its eclecticism, the broadness of its normative approach amounting to a survey of every major health problem of the society, which inevitably made impossible the conceptualization or definition of a cohesive and precise recipe for the confinement of the degeneration process, in view of the different etiologies attached to every disorder addressed. Rather, the solution proposed by the medical personnel included necessarily recommendations, universally valid for every disorder ascribed to the degeneration phenomenon consequently limiting them to the common denominator provided by the predisposing factors, as they were equally ascribable to the etiology of all health problems. In this sense, the medical personnel's indictment of the causes associated to the degeneration of the race process as well as their recommendation for the rejuvenation of the race focused solely and without discrimination on general factors as improper clothing, housing conditions, hygiene, and nutritional practices, either if they referred to inherently multi-causal phenomena as mortality or birth rates or to more narrowly defined categories of diseases as fevers or pellagra with identified exciting agents of the disease. Consequently, their solution to the degeneration phenomenon was tantamount to an overall improvement of the population's economic standing exceeding the prerogatives and capacities of the public health system to become intertwined with the social and economic conditions from the rural world as this excerpt from Istrati's major treatise on the peasantry aptly describes:

> Yes, Romania, and more correctly, the Romanians from our country are as they are because they find themselves in a deplorable situation, because they are haunted by the most dreaded disease, and this disease is their poor economic standing. The poor economic situation of a country or of a part of the country's population produces terrible effects, and these terrible effects are those presented in this study, evils of which we proved we are suffering.[62]

[62] C.I. Istrati. *O Pagină din Istoria Contimpurană*. 356.

Even giving due consideration to the centrality of the dietary issue within the complex of causes associated with the degeneration phenomenon, the medical ideal of improving the peasants' diet by incorporation of animal foodstuffs in 'proper quantities' could only be realized through economic reforms and development: 'In vain will we counsel the poor peasants to feed properly if extreme poverty will stop him from following the advices of the hygienists.'[63] As the solution to the degeneration problem become identical to that of the precarious economic and social standing of the peasantry, the boundaries between the social - and health - aimed measures governing the adoption of the agrarian reforms become blurred rendering impossible any attempt of assessing the effectiveness and degree of politicization of the medical discourse on degeneration.

However, the state's public health policies show a more specific and narrow approach to the population's health problems, by acting on the basis of an individualized and particularized understanding of the nature and preventive measures of each disorder, rather than on a large-scale and homogenous intervention grounded on the common set of predisposing factors. Within such a strategy, the state's intervention in checking recurrent fever outbursts would center on policies aimed at preventing the formation of the individualized and provocative agent of the disease, in this case the miasmas, through measures like drainage of swaps or of loopholes, building of sewerage systems, pavement of muddy streets and especially of places hosting livestock fairs or on the removal of cemeteries outside the housing area. The predisposing component of the disease received only limited attention, in spite of successive state legislation regulating the proper construction of houses and villages and of its share in the diseases' etiology as the primary objective of the intervention - prevention of fever outbreaks - could be achieved by stopping the formation of

[63] Iacob Felix. *Profilaxia Pelagrei.* 269 (41).

miasmas in which case the degree of susceptibility of the organism to their influences will naturally become superfluous. Although it may be supposed that such predisposing factors formed an integrated part of the prevention policies by signaling in a certain measure the urgency of the badly needed agrarian reforms adopted by the state, I argue that the particular coordinates of the state's approach to the health problems of the population were settled in view of the same negotiation process working as a melting pot for medical ideals and existing conditions and limitations. Faced with the avalanche of health disorders grouped within the degeneration discourse, the state adopted a particular set of policies for each disease, in particular by focusing on the individual causative agent and pushing the predisposing factors further into the background. The reasons behind the adoption of this particular direction and configuration of the health policies are primarily economic, as the state was unable to promote health strategies based on both exciting and predisposing causative factors, acting rationally under existing circumstances by adopting the most appropriate means of securing an acceptable disease-contained environment under particular conditions and limitations. Within such a configuration of the state's preventive policies individualized for each particular phenomena reunited in the degeneration theme, the nutritional remedies under the form envisaged by the medical community played only a secondary role impossible to delineate from the overall concern of the state with the social and economic situation of the peasantry.

The nature and degree of the impact of the nutritional theories on the state policies was radically different in the context of pellagra, as the disease was quasi-unanimously conceptualized as dietary related and within a particular understanding of the nutritional mischief triggering the disease. The main departure underlying the need of differential analysis of dietary recommendations within the pellagra and the degeneration of the race themes rests on the slight differences in accent placed on changes at the level of secondary or 'core' components of their reconfigured diet and of their respective relationship to the

etiology of the disorders. Although the assessment of the nutritional value of the peasants' nutritional practices in the case of both themes addressed the issue as a whole by surveying, analyzing and offering recommendations on every item of their diets, within the framework of the degeneration theory the emphasis falls mainly on the foodstuffs pertaining to the secondary level, while in the case of pellagra predominates the discussion of the relationship between 'core' foods and the diseases' etiology, preventive and prophylactic measures. Furthermore, I argue that this particular slight misbalance noticed at the level of medical recommendations was accentuated into a downright one-sidedness by the politicization of pellagra, which infused that note of practicality to the actual policies employed in checking the disease, by giving due consideration to socio-economic and cultural factors. Within a distinctive theoretical framework defining a dietary flaw as the causative agent, the regular process of negotiation between the medically professed nutritional ideal for checking pellagra and the existing conditions governing its actual translation into practice, the compromise reached overemphasized the role played by wheaten bread among the prophylactic and preventive measures, almost up to the point of singular nutritional change proposed as preventive measure, and relegated only marginal significance to improvements at the level of secondary foodstuffs to be implemented just in the case of treatment of already ill persons.

5.2. Pellagra as a 'deficiency' disease

In accordance with the already mentioned prevalent European opinion on the etiology of the disease, the majority of the Romanian medical community recognized and accepted the relationship between corn consumption and pellagra: 'That most of my compatriots that have studied pellagra are zeists and consider spoiled corn as the primary cause, but not the only cause of this disease.'[64] In spite of this point of uniformity in opinions, the precise form and nature of the relationship was conceptualized in a variety of ways, fueling a wide range of

[64] Iacob Felix. *Profilaxia Pelagrei*. 235 (7).

theories and hypotheses which can be grouped into two loosely defined categories in view of their general acceptance of a theoretical understanding of pellagra as an intoxication or as a 'deficiency disease' both caused by exclusive reliance on corn as dietary item:

> The overwhelming majority of the country's medical community consider that pellagra has its origin in spoiled corn through the action of the epiphyte and entophyte of the grain or flour or in the fermentation of improperly conserved corn…Some of our colleagues, few in numbers but with an incontestable authority as our friend D. Prof. Dr. I. A. Theodori point towards the qualitative insufficiency of alimentation as the principal cause of pellagra.[65]

Thus, the first comprehensive account of pellagra pertaining to a Romanian doctor supported the opinion that the disease was caused by a qualitative mischief in the nutritional patterns of persons subsisting on a one-sided, exclusively corn-based diet because of the low nutritive qualities of corn. Teodori's convictions on the etiology of pellagra have been summarized and compared with the subsequent developments from the 'deficiency' stream of thought by Neagoe in his *Pellagra in Romania* as follows:

> Pellagra does not result from an intoxication with micro-organism, or with the poison developed by these in spoiled corn, on the contrary rather, Pellagra is a disease that results from exclusive subsistence on corn, be it even of a good quality. This cereal cannot replace wheat or rye as dietary items of the population, because it is poor in Azoth substances which are the physiological foundations of the human nutritional process.[66]

The pertinent observation that pellagra occurs only in regions where corn enters as the 'core' food of the people's diet and it is absent where other cereals provide the basic food item regardless of the similarities in configuration from the level of secondary foodstuffs was conceptualized within the framework of the paradigmatic theory of nutrition centered on azoth intake. Within such a theoretical structure, pellagra was conceived off as a disease associated with the insufficient intake of azotes, due to corn's low content of these substances, under conditions of a diet centered on this cereal. However, subsequent chemical analyses, aimed at assessing the nutritional value of corn, showed that there is no significant difference

[65] Iacob Felix. *Profilaxia Pelagrei*. 252 (24).
[66] Ioan Neagoe. *Pelagra în România*. 7.

at the level of azotes or of other important nutritional substance between corn and other cereals, including wheat: 'The opinion that pellagra is a simple consequence of misery, that alimentation with corn produces physiological misery because of the chemical composition of this cereal, I cannot admit as correct. Corn is on the contrary an excellent cereal recommending itself through its productivity, in virtue of its chemical composition being a complete foodstuff, after its value immediately under wheat and rye.'[67] Chemical propriety acknowledged, the proponents of the deficiency theory re-configured their claims on the improper nutritional value of a corn-based diet by arguing that because of the lack of gluten, corn was usually prepared under the form of porridges or mush and that particular method and form of preparation decreased the digestibility of the compound implying an inadequate appropriation of the azoth content of corn. Another series of tests and experiments proved the adequate digestibility of mămăligă, though with many authors arguing for the superiority of bread in this aspect, backed with the definite argument that regions subsisting on non-fermented or baked foodstuffs as millet porridges do not contract the disease as demonstrated by the pellagra-free counties of Brăila and Ialomița, where this cereal provided the main ingredient for the peasants' 'core' food item.[68] As a last resort for the supporters of the deficiency theory it was assumed that the azoth substances of corn would not have the same 'plastic' or reparatory qualities of ordinary azotes and, on this grounds, a corn-based diet is physiologically harmful, because it fails to provide the required type of substances needed for organic growth and reparation. This supposition was firmly refuted by extensive research undertaken by both Western European and Romanian nutritionists and chemists resulting in a complete rehabilitation of corn from a chemico-nutritional standpoint:

> What matters very much is that corn is one of the few cereals which, if necessary, can maintain the normal functioning of the organism easier and better than other cereals, even when it is used

[67] Iacob Felix. *Profilaxia Pelagrei.* 235 (7), C.I. Istrati. *O Pagină din Istoria Contimpurană.* 239- 240, Adrian Urbeanu. *Despre Caracteristica Alimentației Țeranului Român*. 9; 17.
[68] Iacob Felix. *Profilaxia Pelagrei.* 255- 256 (27- 28), 236 (8). C.I. Istrati. *O Pagină din Istoria Contimpurană.* 241.

> as exclusive dietary item, and secondly that the azoth substances from corn have the physiological properties and function of the animal proteins, so they are plastic and capable of fulfilling the role of animal azoth substances.[69]

Ultimately, the statistical evidence that pellagra occurs only in regions where corn represents an important component of the local diet, irrespective of the fact that from a theoretic- nutritional perspective other people's diet having some other cereal as their central dietary component are equally deficient, definitely infirmed the theory that pellagra was a consequence of the physiological misery caused by a qualitatively improper diet due to exclusive reliance on corn: 'To this observation we object that even in countries where corn is not consumed, a multitude of people do not feed in a proper manner, ingesting such aliments that comprise a quantity of azoth smaller than that recommended by nutritionists (literally: physiologists) and despite this pellagra is not present in those countries.'[70] However, the downfall of the deficiency theory centered on the insufficient intake of azotes and the prevalence gained by the spoiled corn theory, assured the perpetuation of pellagra as a distinct phenomenon in regard of its etiology, by preventing its total absorption into the degeneration process. Moreover, the debate surrounding the nutritional properties of the 'core' foods strongly influenced the level of the dietary patterns, where the nutritional mischief conceptualized within the azoth balance theory was considered to be located. Usually, the overall evaluation of the dietary practices of the peasantry employed a non-discriminatory survey of all the components of the peasants' diet in order to assess their content and implicit contribution to the daily supply of azoth substances. However, because most of the medical personnel affirmed, and were supported in their belief by the results of successive chemical analyses, that there is no significant difference between the nutritional value of corn and corn-based foods and wheat products, they considered that the nutritional mischief of the peasants' diet illustrated by the health disorders enumerated in the degeneration discourse and

[69] Ioan Neagoe. *Despre Caracteristica Alimentației Țeranului Român.* 11.
[70] Iacob Felix. *Profilaxia Pelagrei.* 236 (8).

suggested by their theoretical opinions on the ideal diet must be searched for at the level of secondary foods where departures from this ideal where evident enough….. Meanwhile, left without any theoretical basis for supporting the deficiency of corn-based diets, part of their supporters either defected to the spoiled corn theory side or found refuge in an aggressive pragmatism maintaining their views on corn by emphasizing the imperfectness of contemporary nutritional knowledge.

5.3. Corn-'perfect' foodstuff: pellagra and ergotism

Perfectly suited for human consumption in view of the criteria set by the available nutritional theories, the relationship between corn and pellagra, as conceptualized within the theoretical framework provided by the category of poisoning diseases typified by ergotism, came to be preferred during the 7th and 8th decades to the deficiency theory: 'The idea that pellagra is the result of an intoxication is not new. Already early observers of pellagra (Gaetano Strombio, in 1786- 1794, Franciscu Xaveriu Jansen in 1787, Hildenbraud in 1826) have suggested a similarity between ergotism and pellagra.'[71] A reevaluation of pellagra along the lines set by ergotism meant an understanding of pellagra as an intoxication caused by poisons developed during the spoilage process, through the action of certain microorganisms:

> ...in the year 1865 A. Bouchardat published a classic work in which he determined the common characteristics of the intoxication caused by ingestion of fungi infested rye, spoiled corn and sausages poorly conserved and affected by moulds, as well as the special characters typical for each of these intoxications[72]…Pellagra is not a disease caused by corn or inherent to its consumption. It is caused by spoiled corn, as moldy bread causes **bucal aphteles and gastro-enteritis** which are sometimes fatal; as unripe fruits produce inconveniencies.[73]

Once adjusted the theoretical coordinates of pellagra along the intoxication model, the medical literature on pellagra abounded in candidates for the specific toxin: Balardini identified as early as 1844 the parasite Verderame (Sporisorium maidis) as the toxic agent, a

[71] Iacob Felix. *Profilaxia Pelagrei*. 238 (10).
[72] Iacob Felix. *Profilaxia Pelagrei*. 238 (10).
[73] C.I. Istrati. *O Pagină din Istoria Contimpurană*. 243.

claim further strengthened by eminent students of pellagra as Theodor Roussel and Bouchardat, maintaining its scientific validity until the 1880s when it was supplanted by Lombrosso's pelagrozoina,[74] with the added provision that both nominations elicited a fierce controversy within the medical community over their presumed existence and connection to pellagra. However, the agnosticism concerning the exact and precise toxin developed in pellagra did not impede the medical community from conceptualizing pellagra as an intoxication, as can be inferred from this statement of Felix about the uncertainty surrounding the causative agent in spite of his professed allegiance to the toxic theory:

> We answer thus to the second problem, that the alterations in corn determined by its imperfect maturation process or defective conservation are not yet determined with sufficient precision, neither in respect of the botanical characteristics of the epiphytes and entophytes, nor in regard of the chemical alterations of the grain, and that spoiled corn although is the principal cause of pellagra, it seems that it does not produces this disease only by itself, but that together with it concur other circumstances to generate this disease.[75]

The irresistible appeal of the spoiled corn theory rested on its ability to provide a 'scientific' conceptual framework within which the scattered information on pellagra could be integrated coherently into a narrative on the nature of the disease under conditions of total discrediting of the parallel deficiency model. The hypothesis that a toxin developed in spoiled or unripe corn was responsible for producing the disease explained perfectly both the disease's peculiar confinement to populations subsisting mostly on corn and its differential impact on individuals from such populations, explaining the particular susceptibility of the poorer classes of the society to the disease, on account of their economic conditions obliging them to consume spoiled corn: 'lacking the knowledge necessary for a more intensive use of the land in order to obtain higher yields, he is obliged to contract additional land through sharecropping system from the great landowner or 'farmer', selling his labor such as that many times he has no time left for work on his own land; for this reason he does not sown in

[74] Iacob Felix. *Profilaxia Pelagrei*. 238 (10). Ioan Neagoe. *Pelagra în România*. 14.
[75] Iacob Felix. *Profilaxia Pelagrei*. 242 (14).

time, does not cull in time'[76] consequently being forced to tend to his harvest either sooner or later in relation to the biological optimum increasing the chances of obtaining an immature or spoiled supply of corn. Moreover, the peculiar epidemiological feature displayed by pellagra in that it affected only some members of the family, while supposedly all of them consumed the spoiled corn responsible with the affliction of their siblings, boosted the conceptualization of an entire plethora of predisposing factors to account for the discriminative influence of the toxins:

> The third issue: if pellagra is produced by complex causes, whether physiological misery and other causes, that precede or accompany the ingestion of corn spoiled through the action of moulds, are indispensable conditions for its emergence, has received an affirmative verdict from the majority of the French, Italian and Romanian pelagrologs and especially from the inquiry conducted by the Italian government[77] […] Annali di Agricoltura concludes that pellagra does not originates from isolation solely, or heredity, or contagion, or from solely the neglect of hygiene, or from misery alone, but all this factors concur to predispose the organism, to make it receptive to the action of a special cause which determines the disease, and this special cause is, either insufficient alimentation with corn or alimentation with fermented corn.[78]

Whatever the usefulness of the spoiled corn theory as a conceptual tool admirably fitting all the statistical and empirical pieces of information of the pellagra puzzle within a homogenous picture of the disease, its value depended ultimately on the efficiency of its prophylactic measures powered by its understanding of pellagra. In this sense, the inability of its supporters to identify precisely the agent responsible with the development of the pelagrogen toxins in spoiled corn seriously hampered the reliability of its prophylactic measures, as there was no clear set of criteria to differentiate between good, non-pellagrous, and spoiled, pellagrous, corn. Within a practical approach, the spoiled corn theory in spite of its rehabilitation of good corn from a theoretical perspective might have ended up by supporting the displacement of this cereal on the grounds of the specific relationship between pellagra and spoiled corn consumption under conditions of no precise definition and criteria expending on the 'spoiled

[76] Iacob Felix. *Profilaxia Pelagrei*. 248 (20).
[77] Iacob Felix. *Profilaxia Pelagrei*. 242 (14).
[78] Iacob Felix. *Profilaxia Pelagrei*. 243 (15).

corn' concept and of a more safer measure of avoiding spoiled corn consumption through exclusion of corn altogether from the people's diets:

> The same value has Lombrosso's Pelagrozoina, even though this extraordinary man is - in my opinion - on the right track when supposing as the true cause of pellagra a sort of poison from the 'Alkaloid' class. Modern organic chemistry today is focusing on the study of especially this class of poisons and I do not doubt that, complemented with bacteriology, will decipher the true source of pellagra. But until then we are obliged to defend against it like we do against other endemic, epidemic and pandemic diseases, with good success, although we do not know their true cause. For example Smallpox, Syphilis and many others. On one thing known today about which nobody has doubts is that only corn is the true source of Pellagra. Corn, be it good or spoiled, produces pellagra when we use it almost exclusively.[79]

However, even if the particular causative agent responsible with the formation of pelagrogen poisons has not been accurately identified there could be taken measures powered by the concept of spoiled corn based on more loosely defined characteristics and conditions attributable to the spoilage process, even if there was no clear-cut established distinction between spoiled pelagrogen and non-pelagrogen corn. In other words, the prophylactic measures should focus on checking the consumption of corn carrying the pellagra toxin, by engaging into policies aimed at preventing the ingestion of spoiled or immature corn on the whole, in accordance with the model of intoxication diseases set by ergotism, postulating that poisons develop through the actions of microorganisms responsible with the alteration of good products:

> The etiology of pellagra is not yet clear enough. The only aspect clearly established is the relationship between a predominant alimentation with corn and the disease. Good corn does not produce pellagra, not even when it is used as exclusive foodstuff under the form of mămăligă. The exciting cause of pellagra is probably an intoxication with spoiled corn, consumed under the form of mămăligă. The toxic agent though is not known. It seems that the physiological misery works as predisposing factor […] The prophylaxis against pellagra consists today in the remedies against these two causes: consumption of spoiled corn and misery […] In the same time as the section VII of the Congrees from Torino expressed the desire that the governments of the countries where pellagra is endemic, should order the local authorities to check the consumption of spoiled corn and to publish popular instructive material to inform the population on the dangers pertaining to its consumption.[80]

[79] Ioan Neagoe. *Pelagra în România*. 14.
[80] Iacob Felix. *Profilaxia Pelagrei*. 232 (4), 244 (15), 251 (36).

The 'spoiled corn' concept, in the context of these prophylactic measures, implied an overall understanding of improper corn, extending over such cases as immature corn determined by incomplete biological cycle, ripe corn imbibed with water due to its tardy harvesting, proper corn becoming moldy because of the humidity due to incorrect methods of conservation and storage, as it was certified by chemical analyses that they contain or predispose towards the formation of a flora of microorganisms not found in good corn, although not always presenting the identified agents supposedly producing the pellagra toxin. Within the framework of the spoiled corn theory postulating that good corn is a 'perfect' non-pelagrogen aliment, that the precise causative agent is not known but that pellagra is a form of intoxication with some poison produced by a certain microorganism developed in corn and in view of a general understanding differentiating between good and spoiled corn, the state should concentrate his efforts in preventing altogether the consumption of unripe or spoiled corn of corn-flour by measures like: drying corn in furnaces to destroy the parasites or eliminate the surplus of water from corn, introduction of varieties of corn with shorter vegetation period better suited for Romania's climatic conditions, reconfiguration of the peasant-landlord relation so that the peasants will be able to gather their harvests in proper time, prohibition by law of the commercialization of spoiled corn enforced by routine checks of the quality of corn commercialized in market-places and main ports.[81]

Such particular set of measures infusing practical usefulness to the precepts of the spoiled corn theory safeguarded it from becoming a theoretical abstraction with no distinctive impact on the state's policies different from that implied by the 'deficiency' theory. However, the painstaking efforts of the supporters of the spoiled corn theory to devise an alternative solution to the recommendations coming from the students of the 'deficiency theory' or from within their own ranks had mostly economic motives as their driving force and main

[81] Iacob Felix. *Profilaxia Pelagrei*. 267-268 (39-40), 245 (17), Ioan Neagoe. *Pelagra şi Administraţia Noastră.* 33.

argument. As both theories stressed the close relationship between corn consumption and pellagra, the safest measure against it in view of the uncertainties surrounding its precise conceptualization inherent to both theories would be to completely exclude corn from the peasants' dietary configuration. As with other health deviations, the medical ideal become entrapped into socio-economic and cultural considerations, ensuing into a negotiation process aimed at selecting the most feasible solution able to secure the highest degree of effectiveness against pellagra under existing circumstances. In this sense, the defense of good corn as a non-pellagrogen foodstuff mixed both exhortations from a medical-theoretical perspective and frequent sermons on his value within the peasants' dietary patterns, along with penetrating depictions of the difficulties and significant expenses incurred by any attempt of substituting wheat or other cereal for corn as its cultivation and consumption was rooted deeply into the economic and cultural structures of the peasantry:

> In practice, though, especially under the conditions dominant in the country, the application of such a measure [substitution of mămăligă by bread] is extremely difficult, because it upsets a state of affairs (things) unchanged for ages, fixed deeply into the customs of the population, that dominates today the way the peasant feeds, the way he lives…It is true that mămăliga - the wheat pulmentum of the old Romans - is an inferior foodstuffs compared to bread; but it is no less true that the introduction of bread into the daily diet presupposes the knowledge and capacity of making bread, to cook foods that go along with bread. Or, the Romanian peasant is not ready for such a radical reformation of his dietary patterns, especially to give up mămăligă, too often his only hot dish either at home or in the field[82]…The peasant is in general too conservator, he hardly changes his customs. Corn cultivation brings him advantages that he does not find in the production of other cereals.[83] […] Wheat afterwards is our principal article of commerce; it is much more expensive than corn […].[84]

Within the state's particular approach to disease prevention exemplified by the policies adopted in tackling paludism (fevers), the crust of the state's intervention focused on the exciting cause with only marginal consideration accorded to predisposing causes. Thus, although the spoiled corn theory emphasized the 'indispensable' concurrence of both predisposing and exciting causes in triggering the disease, the prophylactic measures enacted by the state focused almost exclusively on preventing the actions of the spoiled corn toxins, in

[82] Adrian Urbeanu. *Hrana Săteanului Român.* 29, 25
[83] Iacob Felix. *Profilaxia Pelagrei.* 267 (39)
[84] C.I. Istrati. *Cum şi cu ce Trebuie să ne Hrănim,* 23

spite of not only the privileged position of the 'preparing' factors among the causative agents, but of its peculiar effectiveness and importance in the treatment of pellagra as well:

> Facts already observed in 1807 by Cerri which cured ten pellagrins through correct alimentation, and de Brierre de Boismont in 1830, who observed likewise the disappearance of pellagra after the modification of the dietary patterns, facts that have been also observed in the last years in our country, at the soldiers that when joining the army displayed the first signs of pellagra and which were cured through a normal regime, does not prove in any way that good corn should be condemned as a foodstuff.[85]

This particular equilibrium between the traditional categories of predisposing and exciting causes in the disease's economy found its fullest development within Urbeanu's conceptualization of the relationship between corn and pellagra: 'This is my point of view in regard with the preponderant or exclusive alimentation of the peasants with corn, which I formulate as follows: Alimentation with corn with a minimum of azoth substances is the predisposing cause, and the intervention of spoiled corn is the exciting cause of pellagra.'[86] Overall, Urbeanu operated a synthesis between the 'deficiency' and 'spoiled corn' theories, appropriating from the former the conceptual framework for tackling the disease embodied in the deficiency of azoth hypothesis and from the latter the opinion that the disease is triggered by a specific causative agent represented by a poison developed in corn during spoilage. Within the theory of the optimal equilibrium and supply of azoth substances, the author measured the azoth content of samples of immature or moldy corn and found that their level of azoth was significantly under the minimal amount of azotes from good corn and consequently contributed even further to the overall azoth deficiency characterizing the peasants' diet even when it employed good corn because of the already mentioned low intake of animal products. Furthermore, based on a comparative analysis of cases of pellagra from various regions subsisting with corn, Urbeanu observed a particular pattern in the distribution of cases on macro-regions which supported the argument that overall, nutritional quality plays

[85] Iacob Felix. *Profilaxia Pelagrei*. 265 (37).
[86] Adrian Urbeanu. *Îmbunătățirea Alimentației Țăranului Român*. 41.

a crucial role in the disease's etiology: 'If we take as the object of comparison not just the quantity of corn, but also the nutritional value of the food ratio entirely, we observe, that between this value and the manifestation of pellagra exists a very close relationship: the smaller the food ratio is, the lower the quality of the food, the larger the number of persons affected by pellagra, and the better the quality and plentiful the food is, the more seldom the cases of pellagra become.'[87] With full recognition given to the nutritional predisposing factor among the complex of causes leading to pellagra, conceived within the same theoretical boundaries governing his estimation of the insufficient character of the peasants' diet associated to the degeneration process, the sub-minimal corn developed into both predisposing and causative agent:

> Spoiled corn is not only inferior to healthy corn in view of its reduced proportion of nutrients, but it is directly harmful to health and poisons gradually the organism weakened by an insufficient alimentation. In short, the alimentation with spoiled corn produces first the conditions associated with a regime under the physiological minimum, meaning that it keeps the organism in the state of permanent physiological hunger, caused foremost by the deficiency of azoth substances, and, secondly, it poisons the organism with a specific toxin, that works gradually and even more pernicious as the organism is feebler, more exhausted because of the chronic azoth hunger, consequently more deprived of its resisting power.[88]

Although maintaining undiminished the role of the poisons developed in spoiled corn as a viable explanation for the differential influence of pellagra on people subsisting on corn, a set of prevention policies organized around the principle of supplying an adequate quantity of azoth substances to the peasants' diet would assure a maximum of effectiveness in checking pellagra, as demonstrated by the impressive curative qualities of such a practice:

> Indeed, the experience gained in foreign and domestic pellagrosarios show that as soon as he is withdrawn from the pernicious influence of the 1:10 proportion, the pellagrin heals himself [...] After all, the pellagrosarios are not more than popular cafeterias in which normal food is distributed for free. Can we doubt any more whether the peasants' alimentation should be improved? If it is urgent this accomplishment or not?[89]

[87] Adrian Urbeanu. *Hrana Săteanului Român in cei din urmă 40 de Ani*. 23.
[88] Adrian Urbeanu. *Îmbunătățirea Alimentației Țăranului Român.* 41.
[89] Adrian Urbeanu. *Hrana Săteanului Român în cei din urmă 40 de Ani*. 29.

As the same result could be obtained by focusing on the specific causative agent of pellagra, the tackling of the disease from this direction would have however the downfall of leaving unchanged the deficient character of the peasants' dietary pattern, while the preventive measures centered on improving the overall value of the peasants diet will offer the remedy for both the pellagra problem and the degeneration of the race phenomenon, with the added bonus that all this could be accomplished cheaply, through the dissemination of soy-bean cultivation:

> The drying of corn, meaning the completion of the physiological process of maturation, I think it is not realizable artificially. At most it will accomplish the drying of the unripe corn preventing its spoilage, a capital condition in the etiology of pellagra. Other than that nothing more than the facilitation of the usage of unripe corn. And when it comes to two evils: the favorisation of the physiological misery and the scarification of unripe corn, there should not be any doubt about the course of action.[90]

Tuned on the typical pattern of approaching the health problems of the population, the profile of the state's intervention against pellagra was characterized by a marked discrimination of policies dealing with the predisposing factors, as the responsibility for their application was transferred to authorities regulating the social and economic standing of the country in favor of direct policies focused on the precise causative agent. Under such a configuration of the preventive policies, the impact on the dietary configuration of the peasantry was minimal, as the bulk of the preventive measures were directed towards the containment of spoiled corn consumption, through artificial methods that left untouched the central importance of corn-based foods within the peasants' diet and as the preventive tactics arguing for improvements at the level of secondary items have been marginalized, by being subsumed, as in the case of the degeneration theme, to the overall project of economic and social alleviation of the peasantry. The state's particular choice for a narrow, focalized set of means for combating pellagra was the result of the negotiation process between medical ideals

[90] Adrian Urbeanu. *Despre Caracteristica Alimentației Țăranului Român*. 7.

and existing possibilities with the provision that the general lines of the compromise have been drawn in respect of the most appropriate means of eliminating the exciting agent of pellagra by the medical personnel themselves, the state only enshrining their principal resolution within the policies intended to translate the medical recommendation into practice. Contrary to the medical advices however, the state neglected completely the 'predisposing' approach centered on the improvement of the general standing of the peasantry among which the reformation of the nutritional practices occupied a privileged position, thus forestalling the overall restructuring of the nutritional practices of the population, until the beginning of the 1890s when a renewed conceptualization of the relationship between corn and pellagra upgraded the nutritional flaw from the level of predisposing factor to that of exciting cause in the disease.

5.4.'Deficiency' theory reloaded

This novel understanding of pellagra was a refinement of the earlier deficiency theory in that it conceptualized pellagra as a disease caused by a qualitatively inferior diet defined as any nutritional pattern, including the following two features: an over reliance on corn as the 'core' foodstuff and the absence of animal products form the secondary component, both considered indispensable in triggering the disease. In view of such a re-conceptualization of pellagra, its substitution for the spoiled corn theory both within the medical perception of the disease and, consequently, on the nature and character of the state's policies by means of undermining and ultimately replacing the basic principal guaranteeing their effectiveness and validity, was accompanied by major reconfigurations and pressure on the peasants' dietary habits. More precisely, by bringing the dietary factor to the forefront of the pellagra issue, due to its conceptualization as the exciting causative agent of the disease, it directed the state policies aimed at containing the disease towards this particular aspect of the peasants'

standing within an overall strategy elaborated in accordance with the confinements of the customary pattern of disease control. Furthermore, the particular timing of the emergence of the new hypothesis and its popularization within the Romanian medical community significantly enhanced the potential impact of such a decidedly dietary conceptualization of pellagra as the reconfiguration of the state's policies against pellagra in view of the new opinion on its etiology was accompanied by an intensification of the state's interest in the disease sparkled by the soaring number of pellagra cases. Accordingly, a study of the new deficiency theory in view of its impact on the nutritional practices of the peasantry necessarily presupposes as the groundwork for a comprehensive assessment of its magnitude, besides the formal presentation of the medical recommendations along with their modifications effected through the usual process of adoption and readjustment to the existing conditions, a thorough overview of the complex of circumstances that transformed pellagra into a 'national concern' and a constant preoccupation on the agendas of successive governments.

The official survey of the pellagra cases nation-wide completed under the auspices and at the request of the government headed by Theodor Rosetti in 1888 offers the first obvious proof of the seriousness of the pellagra problem and of its surge within the hierarchy of health disorders considered to represent a particular menace for the population. The results of the count only confirmed and augmented the fears of the political community about the extension of the disease with the immediate result that doctor Ioan Neagoe was officially charged with the mission of studying the most appropriate measures of combating pellagra by means of an analytical overview of the various policies adopted by the states most afflicted by this disease, along with their according effectiveness. In spite of the state's rising interest in pellagra, the piling up of statistical information on the disease indicated only a gradual and inexorable upward trend in the number of cases arguing for a more energetic and better conceptualized approach in preventing pellagra.

Figure 1:

Year	Number of pellagrins
1895	7531
1896	17912
1897	19796
1898	21282
1899	32272
1900	40786
1901	34776
1902	36239
1903	40660
1904	43687

5.5.'A shame for the Nation'

Parallel to the typical politicization and socialization of these numbers on pellagra described within the comparative analysis of the socio-political discourses pertaining to the pellagra and degeneration of the race theme leading to a further strengthening of the 'national threat' concept within the public opinion, a particular feature present in every conceptualization of the etiology of pellagra added a new symbol to the overall imagery of the disease under the denomination 'Mal della Mizera'[91]. Although devoid of any practical significance within the preventive measures adopted by the state, the importance of the predisposing factors commonly grouped together under the concept of 'misery' enabled the construction of a socially negative net of presumptions surrounding the mere medical manifestations of the disease, mediating between the person affected and the community. A

[91] Ioan Neagoe. *Pelagra în România.* 5; Adrian Urbeanu. *Despre Caracteristica Alimentației Țăranului Român.* 5, Adrian Urbeanu. *Îmbunătățirea Alimentației Țăranului Român.* 5, 24.

glimpse into the historical nature and degree of the highly negative connotations attached to pellagra is provided by the common popular opinion that pellagra 'has its origin in Syphilis, Leprosy, poverty or physiological misery,'[92] all these manifestations having a powerful social and ideological component attached to them, universally implying the opprobrium of the community. The formulation of the causes leading to pellagra within a theoretical-scientific framework dispelled most of this assumptions but still maintained the link between misery and the emergence of the disease: 'After all, the relationship between pellagra and sufficient food has been asserted since the 18th century, when the Latin population named pellagra poverty disease, 'Mal della mizera'; and everyday practice has shown, that there is no better remedy, preventive or curative, against this disease, than abundant food.'[93] In view of this link between misery and pellagra, the social label of the disease was upgraded from the community to the international level, a large number of pellagrins relative to the population indicating the poor standard of living of an important part of the population testifying for the backward status of the respective country, under the conditions of an increased interest manifested by the European governments in the social and economic standing of the population on the whole:

> Against this alarming situation it was inevitable that the poporanist movement should take its stand, boosted by the most noble feelings in face of the great historical figure of the Romanian peasant, the defender of the fatherland, that lingers today in the darkness of ignorance, overwhelmed by misery, carrying the stigmata of pellagra, the most shameful disease for a civilized state.[94]

Consequently, to the 'national threat' concept was added the 'national shame' symbol within an overall discourse of socialization and politicization of pellagra that emphasized the need for the sustained and concentrated action of all the classes of society against the disease as an

[92] Ioan Neagoe. *Pelagra in România*. 5.
[93] Adrian Urbeanu. *Hrana Săteanului Român în cei din urmă 40 de Ani*. 24.
[94] Adrian Urbeanu. *Despre Caracteristica Alimentației Țăranului Român*. 5.

ultimate test of their maturity, of their cohesiveness as a nation and of their right of membership into the European civilized community.

The exact estimation of the impact of this concern with the image of Romania in Europe on the overall decision of the government to undertake energetic measures against pellagra cannot be accurately assessed. However, the active measures and good results claimed by the Italian and French governments in checking the disease may have created a climate of international competition in which the states faced with pellagra could exhibit their potential and resourcefulness by eradicating the disease as it was demonstrated that sustained governmental or public intervention may successfully check the disease: 'The existence of an epidemic disease and its extension, are signs of poor administration for every learned person; much more the existence of an endemic disease, which is easier to control.'[95]

5.6.'Bread - the curer of pellagra'[96]

Within this complex international and national setting, the preventive policies adopted by the Romanian government underwent a significant reconfiguration, as a result of the rise of the re-conceptualized deficiency theory among the medical community. The basic coordinates of the new understanding of pellagra have been presented within the Romanian medical literature by Ioan Neagoe, the person responsible with the importation and piecing together of its main postulates following his mission abroad, for the study of the most effective and feasible measures against pellagra enacted by the governments confronted with the disease in view of their transplantation into the Romanian context:

> My purpose was that of getting information on the spot about everything connected to this issue, consulting persons especially informed in the pellagra controversy and consulting the corresponding literature, to select what measure - from those many that I have seen - would be more applicable in our case, having this measure the indispensable quality of first, being the

[95] Ioan Neagoe. *Pelagra si Administrația Noastră*. 5
[96] One of the triad of fallacies recurrently used by Urbeanu in his *Probleme Sociale* and considered as the main obstacle to a true understanding of the nature of pellagra.

best in view of its result, and second, of being the cheapest and simplest in its enactment and function.[97]

In accordance with the nature and purpose of his inquiry, Neagoe was necessarily obliged to infer about the specific etiology of pellagra from the other end of the tread by generalizing and conceptualizing the nature of the disease having as the starting point for its study the character and profile of the treatment measures. In this sense, observing the good results obtained by the Italian 'forno rurale' - rural bakeries specialized on producing and selling bread at minimal prices in order to enhance consumption of this particular foodstuff - and 'cucina economica'- cafeterias distributing freely a mixed, varied food-systems, Neagoe subtracted the principle that a diet based on wheat or any cereal other than corn or one including a liberal allowance of animal products results in a complete cure of pellagra when applied to already affected individuals and in an effective preventive measure against the disease:

From here results that: mamaliga does not produces pellagra when we consume it together with substances rich in azoth content, for example: milk, cheese, eggs, meat, etc. as well as when we alternate it with bread, for example one day, or even two days eating mamaliga and the third day bread.[98] […] From this same cause pellagra appeared in Banat, as well as in other parts of Hungary inhabited by Romanians, and I do not doubt that, even in Bukovina, the principal cause is still the *disappearance* of bread and milk from the poverty-stricken peasants' meals.[99]

By conceptualizing the nutritional mischief of a corn-based diet within the framework of the azoth deficiency theory, Neagoe operated a return to the far-fetched Frua-Lussana theory of the nutritive inferiority of corn in relation to the other cereals, although this hypothesis lost most of its credibility after the publication of the results of extensive chemical analysis that proved the adequacy of corn as a dietary foodstuff:

…presented with so many undeniable proves, the zeist doctrine cannot continue its existence covered with the same cloth as it is today and until stronger evidence emerge we are forced to adhere to the theory put forward by Lussana, that: pellagra is a disease caused by insufficient

[97] Ioan Neagoe. *Raport asupra Misiunei in Străinătate.* 3.
[98] Ioan Neagoe. *Pelagra în România*. 18.
[99] Ioan Neagoe. *Pelagra şi Administraţia Noastră*. 36.

> nutrition, through some form of chronic hunger and the cause of its outstanding expansion is the abuse in corn consumption, either good, or bad.[100]

Although the author definitely knew about the extensive tests done by chemist that proved the nutritional similarity between corn and wheat as can be inferred from his remark that Lussana's theory submerged precisely as a consequence of these experiments, Neagoe opted for a revival of the theory as he lacked a conceptual framework in which to piece together his observations. Particularly, the prevalent at that time azoth deficiency theory could provide a useful conceptual tool for the explanation of the differential impact of pellagra on people subsisting on a varied or one-sided diet, but he was at a loss when having to explain within the same theoretical boundaries the immunity displayed by persons living on equally austere diets, but having the 'core' food based on another cereal or the curative qualities of wheaten bread in case of persons affected by pellagra:

> I have been in the regions around Naples to see the mode of existence and alimentation of the rural population, and from what I have seen I became convinced that for pellagra to develop, besides misery there has to be necessarily present also the exclusive alimentation with corn, as well as I was strengthen in this conviction after I have visited the regions shoring the lake Garda and the county of Tissin.[101] […]Than the information gathered on the spot from the rural medics, from priests, that in Italy are truly fathers of the people, as well as from mayors, spoke very favorably of these rural bakeries. I myself have talked with a peasant that suffered from pellagra and through the change in the dietary practice, through bread, has been cured. In Pasiano di Prato, the priest Barachini has taken me to Vizili Giuseppe, a peasant from the village aged 46, which in 1885 was suffering of dementia caused by pellagra and through the regime of bread was already healed in 1886; today he works in a blacksmith factory, supporting his family.[102]

The endemic character of pellagra among populations subsisting mainly on corn and its absence from cases where the main dietary item included some other cereal, together with the curative properties of bread have been common assets of both the deficiency and spoiled corn theory, the difference emerging only at the level of the theoretical conceptualization of such connections. For the supporters of the deficiency theory the curative and preventive qualities

[100] Ioan Neagoe. *Raport asupra Misiunei in Străinatăte*….14.
[101] Ioan Neagoe. *Raport asupra Misiunei in Străinătate*…40.
[102] Ioan Neagoe. *Raport asupra Misiunei in Străinătate*…27.

of bread were conceived in view of an alleged nutritional superiority of wheat or other cereal over corn, a hypothesis they intended to give scientific form, by conceptualizing it within the framework of the hegemonic nutritional theory. For the supporters of the spoiled corn theory, the results of the chemical tests demonstrating the nutritional value of corn equal to that, if not surpassing many, of the other cereals invalidated the theory that corn was intrinsically pelagrogen and gave a further boost to the conceptualization of pellagra as an intoxication disease implying a differentiation between inoffensive and harmful corn. Consequently, a counter-argument based on the preventive and curative properties of wheaten bread could not challenge the scientific validity of the spoiled corn theory, as a consistent explanation could be forged within its theoretical framework, by stating that by avoiding corn consumption altogether, it is impossible for the toxins present in spoiled corn only to enter the organism. As such, the eloquent examples put forward by Neagoe, of persons affected by pellagra being cured through dietary changes consisting in a replacement of corn by wheat, could effect no change in the paradigmatic mode of thinking pellagra and have no bearing on the state policies centered on the prevention of consumption of spoiled corn. The main obstacle to such a conceptual break was the particular configuration of the hegemonic theory on nutrition which doomed time and again the attempts of the deficiency theory to explain the particular connection between corn and pellagra by means of an inferiority of corn and, subsequently, corn-based foods in terms of first, the level of azoth content, and secondly, the quality of these substances. Successively restated by the nutritional experts that there is no difference between the nutritional properties of corn and other cereals, the only way to maintain a deficiency oriented line of thought in conceptualizing pellagra was by challenging the perfectiveness of such a theory and argue for some deficiency of corn pending discovery or an already identified but poorly related to pellagra one:

> Does not corn have all the elements as wheat or barley that do not produce any disease, unless they are altered through some well known bacteria, although we use them every day in our

> alimentation. It has some elements in greater amounts than wheat and barley, other in smaller, and others are lacking, for example gluten, whose absence is proved by the inability of making baked bread out of corn.[103]

Neagoe's reference to gluten as a possible etiological factor in pellagra is particularly suggestive for his method of conceptualizing pellagra because of the oddness of the particular element chosen to underline the corn' deficiencies as it is certain that the author knew about the reliance on millet of the population from the pellagra-free county of Brăila, which he cites as an argument in favor of the link between corn consumption and the disease, and of the absence of gluten from this particular cereal.[104] Just like the revival of the hypothesis of improper azoth content of corn already dismissed decades ago, the method of pointing towards any difference in corn's composition and relate it to pellagra pertains to the same rationale of providing a theoretical basis, however fragile, for his strong conviction that corn regardless of its quality generates pellagra. Without any theoretical framework in which to articulate his findings on the preventive and curative character of bread and proper diet that could offer a conceptual alternative to the spoiled corn's understanding of pellagra, Neagoe attempted to subvert the reliability of the latter by means of an empirical study aimed at proving the invalidity of the toxin theory as the causative agent in pellagra. In this sense, the author engaged in a comparative analysis of the general standing of two groups of populations, one affected by and the other free of pellagra, impressive through the sheer number and minutiae of aspects approached, amounting to a survey of all the factors allegedly concurring in producing pellagra, as listed by the main theories addressing its etiology. The results of this differentiating study indicated the inadequacy of all the previous conceptualizations of pellagra, as it suggested that the largest part of the predisposing factors played a totally insignificant role in the disease's causation while the narrow category of 'preparatory' nutritional aspects were elevated to the importance commonly associated with

[103] Ioan Neagoe. *Pelagra şi Administraţia Noastră*. 10.
[104] Ioan Neagoe. *Raport asupra Misiunei in Străinătat*…9; Iacob Felix. *Profilaxia Pelagrei*. 258 (28).

the exciting causative agent by supplanting the hypothetical toxin suggested by the spoiled corn theory. [105] The argument for the displacement rested on the results of the chemical analysis of corn samples collected from the test groups as there was found no qualitative difference between them or any traces of chemical alteration whatsoever in the sample of corn taken from the pellagra-affected group:

> The samples of corn, exhibited here, come from Ilfov County, from communes affected by pellagra. All samples are corn of very high quality, odorless, without any trace of moulds, properly dry and relatively well conserved. […] Analyzed chemically and bacteriological, it gave no positive result. […] The other two communes [those free of pellagra] are in close vicinity to the already mentioned ones [affected by pellagra], on the same bank of the river Argeş, with similar hygienic, atmospheric and telluric conditions, with too insignificant differences in dwellings: in view of the material, style, dimensions, solicitude and cleanliness; with the same subsoil, namely sedimentary clay, sandy, consequently with the same water in dwells, and still free of pellagra.[106]

The only difference noticed was at the level of the economic profile of the peasants' household, as the population from the regions free of pellagra was engaged in livestock breeding besides crop cultivation, favoring a more diversified character of the their diets through the inclusion of dairy and animal products and by the frequent alternation of bread and corn:

> Almost all dwellings have ovens for bread making, in which at least once every two weeks, bread is made for the household conveniences. Mămăliguța rarely lacks from the peasants' meal, but he eats it with milk, with its products, for example: cheese, butter milk, whey and it is sometimes replaced with bread. However, pellagra is not seen.[107]

The evidence brought forth by the comparative analysis clearly refuted in Neagoe's opinion the spoiled corn theory and argued for a close relationship between pellagra and any kind of corn consumption conceived as a result of the low nutritional quality of this cereal rendering any dietary regime centered on it unable to sustain the organism in good physiological situation, in spite of the chemical analyses arguing to the contrary:

[105] Ioan Neagoe. *Pelagra în România*. 17-18.
[106] Ioan NEagoe. *Pelagra în România*. 17-18.
[107] Ioan Neagoe. *Pelagra în România*. 18.

> From the inferences presented above, it can be seen that the assertion that just spoiled corn produces pellagra is a myth, and it is an undeniable truth that the exclusive nutrition with corn, be it of high or low quality, produces Pellagra. Consequently: Zea Mais is a pelagrogen cereal that cannot replace wheat or rye as popular nutriment, not even barley, from which the poor peasants from Galitia and Lodomeria make bread, and Pellagra it is not known there.[108]

As an important point in Neagoe's understanding of a proper diet capable of preventing or curing pellagra, the author does not consider necessary the exclusion of mămăliga from the peasants' nutritional habits, his diatribe being directed only against the one-sided type of diet where corn provided the sole ingredient of the 'core' foods and was complemented with secondary items overwhelmingly vegetarian in character:

> If I become the Apostle of bread in the peasants' alimentation, are terrible mistaken those who believe that I want to exclude corn and mămăligă. Corn is an excellent cereal, and mămăliga, a delicious foodstuff, but not always eaten by itself, rather combined with appropriate foods, either with milk and its derived products, or especially in regular exchange within the peasants' dietary practices with bread that must not be absent from the household.'[109]

Consequently, an efficient control of the disease could be obtained through the increment of the peasants' intake of animal products, and especially of dairy products, as well as through the substitution of bread for mămăligă: 'Pellagra emerges in places where poverty or laziness forces the peasant to subsist almost exclusively on corn, and Pellagra cannot emerge in places where mămăliga and mălai are eaten together with milk, cheese, butter, eggs, meat and other nutritious substances rich in azotes and fats.'[110] However, the same mechanism that prevented the spoiled corn theory from reaching a common point with the deficiency theory in proposing as a preventive measure against consumption of spoiled corn the substitution of corn altogether with another cereal, worked against the configuration of the preventive measures along the lines of a consensus between keeping corn as an article of the diet and focalization on the measures aimed at complementing it with animal foodstuffs within a commonly accepted effective measure against pellagra. In view of the difficulties posed by

[108] Ioan Neagoe. *Pelagra în România*. 22.
[109] Ioan Neagoe. *Pelagra şi Administraţia Noastră*. 43-44.
[110] Ioan Neagoe. *Pelagra în România*. 22.

such a measure under certain economic and social conditions, Neagoe, in his quality of state official and employee granted the mission of selecting the 'best' and 'cheapest' measure to be employed against pellagra in the Romanian case, applied the mechanism inherent to the negotiation process himself, by selecting rural bakeries as the best suited measure against pellagra, to be enforced by the Romanian government: 'From this it can be seen their value, and I do not know a better and cheaper weapon for combating pellagra, than these bakeries, whose social value we have seen how tremendous it is.'[111] In order to enhance the attractiveness of his measure, Neagoe provided a detailed working plan of these rural bakeries molded on the Italian example including both technical and economic considerations on how to simplify and rationalize their functioning for obtaining maximum result at the lowest cost possible. A thorough account of these specific advices, as well as their appropriation and application by the state, would be presented in the next chapter, under the heading Successes and Failures of the state's intervention of reconfiguring the peasants' diet, as the policy of implementing the rural bakeries in every village was the only measure championed directly by the state that had a significant impact on the structure of the peasants' nutritional practice.

However, regardless of the strong case built by Neagoe against the spoiled corn theory in view of the numerous empirical evidence he brought in favor of his hypothesis, that all qualitative categories of corn are susceptible of causing pellagra due to the deficient character of corn as a foodstuff, the absence of any theoretical support for his findings within the context of an all-inclusive nutritional theory postulating diametrically opposed opinions on corn seriously hampered its receptivity among the medical community. Even as the state reconfigured its pellagra policies along the lines suggested by Neagoe, the most preeminent figures of the Romanian medical community remained decidedly supporters of the propriety

[111] Ioan Neagoe. *Pelagra în România*. 30.

of corn as a foodstuff equal or insignificantly inferior to wheat in nutritional quality, and consequently upholders of an understanding of pellagra as an intoxication disease:

> As an albuminoidal foodstuff, mămăliga is as nutritive, at least, as low quality bread, the one the peasant would have at his disposal. This is why I always defended corn against those who tried to replace it with bread. The argument, seriously otherwise, of the danger of pellagra, it is not *scientifically* demonstrated; in my opinion, pellagra is more a disease of physiological misery, of the lack of sufficient food, on which probably is added the effect off a peculiar flour pertaining to spoiled corn. I admit, very seriously, the hazard of spoiled corn, but this applies also to bread or other cereals, and meat and milk […] who are always predisposed of becoming a vehicle of toxic ferments and pathogenic agents. […][112] Without doubt, the measure of introducing bread in the villages is a consequence of the label of insufficient and pelagrogen foodstuff attached to corn. Without this it would be hard to understand the role of the proposed measure. If we understand that this label is hypothetical, we must recognize that the measure has a weak basis.[113]

Considering the strong resistance and opposition it generated within the medical community, the decision of successive political actors over at least one decade to formulate their main preventive policies in view of the particular understanding of the relationship between corn and pellagra advanced by Neagoe is most intriguing. Likewise the transference of his imperative of introducing bread in the villages into the realm of political propaganda through its incorporation as an integrated feature of the acclaimed project of the poporanist movement of improving the peasants' standing testifies in favor of the intense politicization of his doctrines.

An attempt of sketching briefly some possible explanations for this peculiar behavior has to start from a contextualization of the state's decision within the complex web of circumstances governing its actions against pellagra at the turn of the 19th century. In favoring such a course of action I believe it was crucial the impact of the good result claimed by foreign governments in tackling the disease through precisely the same measures proposed by Neagoe and especially the Italian experience where pellagra was almost eradicated by the last years of the 19th century. All these developments were grafted on the background of the constantly deteriorating situation from Romania were exactly in the same interval the number

[112] C.I. Istrati. *Cum şi cu ce Trebuie să ne Hrănim*. 27.
[113] Adrian Urbeanu. *Despre Caracteristica Alimentaţiei Ţăranului Român*. 7.

of pellagrins doubled and afterwards trebled forcing the government to enforce more energetic and costly measures. As a last point, the medical community's aversion to Neagoe's recommendations had mostly a theoretical foundation, as in practice the substitution of bread for corn would imply after all even under the guidance of the spoiled corn theory of disease, a confinement of the disease. The main objection to the state's policies of introducing bread were powered mainly by economic reasons as it was considered that pellagra can be controlled cheaply by concentrating on the prevention of spoiled corn consumption with the benefit of redirecting the expenses incurred by the switch to bread towards a real improvement of the peasants diet through stimulation of the consumption of animal foodstuffs. Otherwise, at a practical level, the effectiveness of the measure of introducing bread as an important dietary article in the rural world was certified by both theories, a common point masterfully exploited by Neagoe in his argumentation in favor of the switch by underlying that in view of the uncertainty surrounding the exact theoretical conceptualization of the relationship between corn and pellagra, the state should configure its preventive policies on the secure foundation provided by the undisputed existence of such relationship:

> As it can be inferred from what has been presented already, the difference between the two doctrines centers only on corn, good or spoiled. It naturally follows that in both instances we should defend against it [corn], especially as until today it has not been completely defined what exactly is 'spoiled corn' in the true meaning proposed by Ballardini and Lombroso. Consequently, the essence of the method of preventing pellagra is, and will remain as the spearhead of the measures against it, one and the same, namely: feed less on corn and more on bread and include mixed, varied foodstuffs[114] […] Is this the cause of pellagra [following the fragment on gluten, note…], we do not positively know; science researches and debates continuously. One aspect is undisputedly asserted: that pellagra emerges only from corn, and therefore the administration, as a positive science so to speak, deals with it in preventing the spread of pellagra in every legislation and ordinances on the matter[115] […] This principle, [embodied by the 'forno rurale' system] is in accordance with both the theory of Lombroso and that of Lussana, and the result obtained until now are a powerful plea in favor of the effectiveness and validity of the principle.[116]

Moreover, the exhaustive plan attached to the proposal of supporting bread consumption in the rural world through the naturalization of the impressively economical Italian 'forno rural'

[114] Ioan Neagoe. *Pelagra în România.* 58.
[115] Ioan Neagoe. *Pelagra şi Administraţia Noastră*. 10.
[116] Iona Neagoe. *Raport asupra Misiunei în Străinătate*…21.

system made the recommendation more palatable for the Romanian government and softened the strong economic appeal of the measures against pellagra powered by the spoiled corn understanding of the disease within the usual negotiation process between medical ideals and existing conditions and possibilities.

6. ECONOMIC AND CULTURAL CONDITIONINGS

6.1. Profile and Character of Economic Development: 1860-1914

The discussion of the general features pertaining to the economic system prevalent in Romania during the emergence of the medical discourse on nutrition has its purpose in providing a framework for judging the viability of each recommendation through an assessment of the degree of their accordance with a certain configuration and profile of the economic setting. Conversely, it offers the basis for an adequate understanding of the particular configuration of nutritional practices proposed by the medical men in accordance with their construction as compromises between medical ideals and perceived available means intended to soften their acceptance and application by the state or rural population. Moreover, the behavior adopted by the state in tackling the major problems highlighted by the medical men can be better contextualized by revealing the intensity and nature of the pressure exerted by socio- economic factors within a negotiation process readjusting rationally and constantly public health goals in view of limited available means under conditions of a hierarchy and multiplicity of the state's purposes.

The economy of Romanian during the relevant timeframe had an overwhelmingly agrarian profile and maintained this characteristic up to the threshold of the First World War when in spite of the progress made by the national industry, particularly the petroleum sector, 80% of the Romanian population was still rural and engaged in agricultural enterprises[117]. Given the backward state of development of the industrial and commercial sectors, agricultural production accounted roughly for 75 % of the national gross product over much of the pre-war period and supplied an even larger percentage of the total value of exports, just the cereal category of exports representing on the interval 1882- 1912 a constant average

[117] Keith Hitchins. *Rumania : 1866-1947*. (Oxford : Clarendon Press, c1994), 166.

value of 76%.[118] Although the inclusion of the animal products would increase the absolute value of the agricultural items within the export value, their contribution would be only marginal as the agricultural sector of Romania was overwhelmingly crop- cultivation oriented, with vegetal products contributing with more than three quarters to the overall value of the agricultural production in 1880 when the livestock sector was only midway in its relative decline.[119] The disproportion was even larger in terms of particular percentages in the value of exports as can be inferred from table 2 where animal products were gathered under the category of Other and amounted together with other products to roughly 12%, very close to the value of 15% proposed by Aurelian in his minutiae breakdown of the value of export products for the year 1871.[120] Moreover, among the vegetal products, corn and wheat represented the most important articles of production in terms of land occupied, quantities produced, combined value within the agricultural production and overall level of exports. As export items, corn and wheat accounted for 80% of the total value of all grains[121] as suggested also by Aurelian who proposes a similar percentage for the year 1871[122]. Thus, the estimated value of corn and wheat within the overall export trade of Romania taking as the basis for the calculus the minimum for both the percentage of the two cereals within the grain category[123] and for the part represented by the latter's value among the other exportable products is somewhere around two-thirds of the overall value emphasizing the strong dependence of the country's income on the cultivation of these two primary products. Between the two cereals, wheat was the principal article of export in terms of value as can be inferred from an analysis

[118] Daniel Chirot. *Social Change in a Peripheral Society. The creation of a Balkan Colony*. (New York San Francisco & London: Academic Press, 1976). 122. John R. Lampe and Marvin R. Jackson. *Balkan Economic History, 1550-1950: From imperial borderlands to developing nations*. (Bloomington: Indiana University Press, 1982), 169..
[119] P.S. Aurelian. *Terra Nostra. Schițe economice asupra României*. (Bucharest: Tipografia Academiei Române, 1880), 121.
[120] P.S. Aurelian. *Terra Nostra*. 236.
[121] Lampe and Jackson. *Balkan Economic History*. 170.
[122] P. S. Aurelian. *Terra Nostra*. 239.
[123] The 1896- 1900 interval from John R. Lampe and Marvin R. Jackson. Op. cit. 169.

of the approximate data at hand.[124] From the total amount of wheat produced in the country, about half took the form of exports to other countries whereas the other half was retained for domestic consumption with the provision that the main consumers of this grain were predominantly the city dwellers with only limited consumption within the rural world.[125] Corn was exported also in significant quantities amounting to approximately 40% of the total harvest with the rest being consumed locally by providing the main ingredient of mămăligă, the 'core' dietary item of the peasantry. As the subsistence crop of the larger part of the population, corn was the principal cereal cultivated both in terms of the overall quantities obtained, with five-year averages exceeding those of wheat for the entire period between 1862 and 1915 save on the interval 1901- 1905, and land allocated for its cultivation.[126] Consequently, by taking as the basis of comparison five- year averages on the interval 1880 and 1905, the quantities of corn exported were slightly larger than those of wheat, except for the interval 1895- 1899.[127]

As the total level of exports increased at a dazzling rate during most of the 19th century and especially beginning with the 1860s, the constant proportion represented by the cereal component hovering around 75% of the aggregate value of this burgeoning trade implies, even allowing for the fluctuations in prices, a correspond extension of the quantities commercialized as can be seen from the data included in table 10. Powering the increase in the quantities exported was a similar significant growth in the overall production of the two

[124] Information derived from Aurelian's exhaustive data on the value of each export item for the year 1871. According to his computation, the value of wheat exports surpassed that of corn by 70%. As it expands the situation from one particular year over an entire period, the generalization has necessarily a narrow basis, even more as the quantities exported are not given. However, although it cannot claim absolute accuracy, if it is used the approximate percentages of the total harvest of corn and wheat commercialized that appear to have remained at a steady level over most of the second part of the 19th century and the approximate total amounts of each crop supposedly obtained in that period, the difference between the quantities exported seems to have been in favor of corn by a slight margin. Thus, even allowing for such variables as comparatively larger exports of wheat for the respective year and abnormal difference in prices between the two commodities, it can be safely asserted that wheat usually fetched a far better prize than corn.

[125] Daniel Chirot. Op. Cit. 124, John R. Lampe and Marvin R. Jackson. Op. cit. 170, P. S. Aurelian. *Terra Nostra*. 262-263, Adrian Urbeanu. *Hrana Săteanului Român în cei din urmă 40 de Ani*. 8.

[126] John R. Lampe and Marvin R. Jackson. Op. cit., 171-172 (Table 7 and 8 from Annex), Daniel Chirot. Op cit., 124.

[127] Daniel Chirot. Op. cit. 124.

main exportable crops, in both cases the total amount produced represented on a five year average basis, trebling between 1862-1866 and 1911-1915. Corresponding to this staggering increase in quantities produced was a similar expansion of land cultivated, the total surface devoted to wheat trebling within the same interval while the land allocated for corn growing increased at a slower pace by only 100%. Consequently, most of the growth in wheat production was supported by extensive development rather than intensive use of the land as it is also suggested by the remarkable consistency in the average amount of land covered with wheat per capita per rural population between 1886-1890 and 1910-1915. A similar situation can be found also in the case of corn fields with practically no change in the ratio between rural population and the total surface of the arable land cultivated with this cereal between 1886-1890 and 1901-1905 and a significant misbalance during the two subsequent intervals pointing towards the first signs of overpopulation in the rural world.[128] Strengthening the assertion that the growth in cereal production followed an extension of the surfaces cultivated manned by the growing number of Romania's population, is the total absence of technological innovation from both boyar estates and peasants' holdings or even improvement in cultivation techniques, as demonstrated by the virtually unchanged yields of corn and wheat during the second half of the 19th century.[129]

This profile of agricultural development centered on extensive growth of production was furthered in spite of the rising rural population grafted on the overall increase in Romania's population. Between 1861 and 1899 the total population of Romania increased from 3969675 to 5956690[130] inhabitants only to reach 7235000 by 1912.[131] The increase was not even in all the regions of the country as it was more marked in the plains than in the hills, in Wallachia than in Moldavia and in the urban than in the rural area. However, the

[128] John R. Lampe and Marvin R. Jackson. Op. cit. 170.
[129] Daniel Chirot. Op. cit. 143. John R. Lampe and Marvin. R. Jackson. Op. cit. 188.
[130] Keith Hitchins. *România:1866- 1947.* 156.
[131] John R. Lampe and Marvin R. Jackson. Op. cit. 166.

discrepancy registered at the level of urban- rural area was quite insignificant since the upward population trend modified only slightly the proportion of population pertaining to each of them from 15%-85% in 1859 to 18%-82% in 1912. In spite of the fact that the bulk of the urban population increase and, for that, even perpetuation of the existing level of the population is attributed to migratory rural- urban movements, the city through its industry and commerce was not able to offer a viable alternative for the absorption of a significant part of the overall population increase.[132] Consequently, the larger part of the population increase was drawn into the sphere of agricultural enterprises as until the turn of the 19th century the available arable land and the insignificant headway made by agricultural machines allowed the integration of the Romania's rising population into the extensive cultivation system.[133] For the relevant timeframe, the rural population, when applying the proportions suggested by Keith Hitchins, rose from approximately 3280000 individuals in 1859 to 5930000 in 1912, amounting to almost a doubling of its size…. accompanied by a similar increase in the surface of land cultivated with corn, the main article of consumption of the peasantry, and a faster growth rate of the acreage under wheat.

The increase in cultivated land needed to sustain the rural population growth was paralleled by a constant decline in the surfaces occupied by pastures. Thus, while by 1910, the surface of land cultivated with cereals accounted for 39% of the total arable land of the country and 86% of the actually cultivated acreage, pastures and grazing areas declined up to 11%.[134] Correspondingly, the ratio of livestock present in the country relative to population plummeted from 1860 onwards in face of the inexorable increase of cereal output and land devoted to their cultivation. A breakdown on various types of animals of the development registered at the number of livestock between 1860 and 1900 indicates that the number of cattle decreased from 2607594 to 2588526, the number of sheep increased from 4410357 to

[132] Keith Hitchins. România: 1866- 1947. 157.
[133] Daniel Chirot. Op. cit. 136.
[134] John R. Lampe and Marvin R. Jackson. Op. cit. 170; David Mitrany Op. cit. 25

5655444, goats declined from 409676 to 232515 while the number of pigs rose by 54%, on the background of a general increase of the population during the same time interval of 50%.[135] Compared to 1873, by using Aurelian's computation, the number of cattle was around 1886990, of sheep 4786317 and of goats 305316.

These simultaneous trends of relative stagnation in livestock breeding and impressive growth of the cereal sector of the agriculture projected on the background of marked population increase during 1860 and 1912, are symptomatic for the deep structural change underwent by the Romanian agriculture in the 19th century, namely the switch from a predominantly agro-pastoral to a crop-cultivation system.[136] In approaching the complex nature and character of the change as well as its inherent impact on the peasants' nutritional patterns, I have appropriated as basic conceptual tools and notions, the understanding of agricultural system and the definition of its variants proposed by P. S. Aurelian. Furthermore, in the attempt of assessing the forces governing the shift and maintaining the newly established system, I have appropriated Chirot's concept of international system as a framework for analyzing the relationship between this particular shift and the international economic setting.

According to the definitions put forward by Aurelian, a pastoral system refers to the specific organization of the agricultural enterprise centered on livestock breeding and trade in animal products with crop- cultivation practiced only for satisfying the household's own consumption requirements, whereas a balancing of the two activities manifested through an increase in the overall importance within the household's economy of cereal production and

[135] These numbers are those put forward by Iacob Felix. Laptele. Puterea sa ca hrană si producerea lui. Although not an economist or statistician, I believe that his data is reliable since he uses the official count made in 1900 by the Ministry of Agriculture and Domains, and for 1860, his numbers are very close to that suggested by the economist P. S. Aurelian in 1880. For reference, I am providing Aurelian's data also: cattle- 2751168, sheep- 4819900, goats- 423077, hogs- 1088737.
[136] Daniel Chirot. Op. cit. 102

commercialization characterizes the pastoral- mixed system.[137] Within an understanding of cultural system stressing its sensible accordance to a complex of environmental, demographic and socio- economic factors arguing against any claims of inherent superiority for a specific system as their particular configuration of main features are a response to, and fit best on, a particular set of factors, the switch from one agricultural setting to another is seen as result of major changes at the level of all these variables. Complementing this criterion of differentiating between the agricultural enterprises in regard of the specific natural resources employed, Aurelian adds as another coordinate to the classification the manner in which labor and capital are employed within each category of agricultural systems, either intensively or extensively.[138] Altogether, the extensive pastoral system is seen as developing naturally and being best suited for regions 'where estates are large, population sparse and labor too expensive' as well as the only one that could profitably exploit the 'alpine, hilly and slope pastures that cannot be plowed.'[139] Under conditions of low capital accumulation hindering the implementation of agricultural practices leading to a more intensified utilization of the land, the increase in population could not be accommodated with the prevailing agricultural configuration, the only way out being the transition to a system that inherently implies a more intensified use of the land: the pastoral- mixed system. Consequently, the demographic factor is elevated in Aurelian's doctrine to the role of primary cause in the displacement of agricultural systems or manner of resource usage:

> Agriculture in its evolution is tuned on the development of population. Sparse population, agricultural system entirely extensive; dense population, intensive system. Thus, we can say that to every significant increase in the population corresponds a change in the systems of cultivation. And the relationship is very natural as pastoral agriculture or mixed- pastoral agriculture cannot support on an equal surface, the same number of people as would the cereal or alternating systems of culture.[140]

[137] P.S. Aurelian. *Sisteme de Cultură*. 46.
[138] P.S. Aurelian. *Sisteme de Cultură*. 1-4.
[139] P.S. Aurelian. *Sisteme de Cultură*. 11.
[140] P.S. Aurelian. *Sisteme de Cultură*. 68.

When applied by Aurelian to the particular case- study of the Moldavian and Walachian Principalities' agricultural development in the 19th century, the demographic model of explanation suffered some modification through the inclusion of economic factors in order to account for a more comprehensive explanation of the transition process from the pastoral to the mixed- pastoral cultivation systems:

> Until the 1830s, livestock breeding was the basis of our agriculture. Cereals were cultivated preponderantly for local consumption because the export trade was not that developed. There were exported cereals mainly to Turkey, because the Ottoman government monopolized our commerce with livestock and animal products as well as that with cereals. From 1830, cereal cultivation starts to spread in every year. Our agriculture becomes more and more pastoral-mixed, with the tendency of expending as much as possible the extent of cereal cultivation. As much as our relationship with foreign countries was intensifying; as much as we were requested more cereals, as much the surface allocated to pastures was narrowing.[141]

Consistent with most authorities in the field of Romanian agricultural development in the first half of the 19th century, Aurelian attributes the rise of cereal cultivation in the Principalities to the galvanizing role played by Western demand for wheat following the abolition of the Ottoman monopoly on grain consecrated by the Treaty of Adrianople from 1829. In conceptualizing the impact of the foreign demand for the Romanian grain, I have opted to expend on Chirot's application of the 'international system' model to the agricultural development of Romania in order to asses properly the place of economic factors within the complex of causes leading first to the shift from pastoral to pastoral-mixed agriculture and latter in the second half of the century to the transition to a mainly cereal-based agriculture:

> An international system influences a society within it because it sets a value on certain products that can be exported or imported. The system may define the nature of the surplus for a society within the system's range, especially if it has the economic or political power to extract that surplus for its own uses….International systems are not important simply because they are sources of technological and cultural diffusion. Primarily, they are important because they impose certain economic and political patterns on their participants.[142]

[141] P.S. Aurelian. *Sisteme de Cultură*. 47.
[142] Daniel Chirot. *Social Change in a Peripheral Society. The creation of a Balkan Colony*. (New York San Francisco & London: Academic Press, 1976), 4-5.

In view of this general theory of international conditionings, the significance of the Treaty of Adrianople was conceptualized in the thesis that starting with it, the Principalities become integrated into the Western economic system which now directed the kind of surplus to be extracted from the Principalities towards cereals, particularly wheat, needed to supply the growing urban population created by massive industrialization. Consequently, successive developments on the Center of the economic systems in which the economies of the Principalities were embedded influenced the nature of the surplus required followed by a reorientation of their productive forces from livestock breeding, which dominated their former trade with the Center, to grain cultivation inducing a corresponding shift at the level of the surplus producers from a pastoral, semi-nomad existence to a sedentary, crop-cultivation one.[143]

In spite of the fact that the Center's policy towards the two peripheral provinces in terms of surplus production shifted earlier from livestock to grain requests following the loss of the grain producing regions by the Ottoman Empire during the second half of the 18th century, the advancement in cereal production was minimal mainly because of the methods employed for extracting the surplus. Thus, the Ottoman Center exercised a weak integration of the Principalities economies and had to assure its dominance by restrictive tariff policies and to apply non-economic practices as tribute collection and even requisition or stipulation of maximal prices in order to extract the surplus failing to provide any incentive for the production of that particular surplus.[144] The net result was that by 1832 the value of the livestock trade surpassed by a considerable margin the value of grains exported and it maintained this privileged position until the 1840s. From than on, grains supplied the main article of export in terms of overall value, as shown by the computation of the value of export items leaving Moldavia in 1847 in which the value of grains accounting for 86% of the total.

[143] Daniel Chirot. Op. cit. 99. John R. Lampe and Marvin R. Jackson. Op. cit. 96.
[144] John R. Lampe and Marvin R. Jackson. Op. cit. 83

Although there cannot be drawn any undisputable conclusions starting from one year only, it is worth mentioning that by this date not only had livestock lost its preeminence in face of grain as the most valuable export item, but there are reasons to believe that it decreased in overall value indicating a decline of the livestock trade confirmed by subsequent data.

However, although the increase in grain exports implying necessary an extension of the surfaces cultivated, coincided with the opening of the Straits for international traffic, and presumably to Western European economic influence, a breakdown of the increasing quantities of exports by countries of destination reveals that much of the products followed the traditional route to Turkey, which remained an important consumer of the Principalities' exports at least until the 1860s.[145] Consequently, the remarkable increase in grain output following the Treaty of Adrianople cannot by attributed solely to the increase in demand for this particular group of items boosted by the liberalization of trade, but more likely to the stabile internal situation inaugurated through the Reglement Organique that favored the resettlement of the plains and to the increase in grain prices following the abolition of all restriction and monopolies.[146] The latter factor seems to be decisive as indicated by the relative decline of the livestock trade during the subsequent period arguing for an increased profitability of grain cultivation.[147] In this sense, the integration of the two principalities into the European economic system was translated into an increased demand for grains assuring, rather than creating from scratch, a ready market capable of absorbing the incredible increase in overall production from the second half of the 19th century while still maintaining the ascendancy in terms of profit of grain cultivation over livestock breeding.

Ultimately, the capacity of the Center in extracting the surplus depended on the level of integration of the surplus producers into its political and economic systems conceptualized as the power exercised by the Center in directing the productive forces of the population from

[145] John R. Lampe and Marvin R. Jackson. Op. cit. 104-105. Table 15 from Annex.
[146] David Mitrany. *Land and Peasants in Rumania*. 25
[147] John R. Lampe and Marvin R. Jackson. Op. cit. 166.

its annexes towards the production and commercialization of a certain product. In the case of an economic domination of the Center, this capacity is conditioned and determined by the intensity of the commercial connections it establishes with its annexes depending on its proficiency in providing incentives for stimulating the surplus producers to engage into trade relations and, consequently, on the degree of economic self-sufficiency of the producers. The Ottoman Center employed predominantly low-incentive measures as stated above resulting a weak integration of the surplus producers' economies into its economic system, the establishment and maintenance of trade relations having a non- economic substratum as the annexes were forced into commercial activity with the Center by the need of raising money needed to defray the taxes or tribute imposed on them under conditions of trade monopoly. On the other hand, the Western European economic Center inaugurated a more firm economic integration due to its capacity of extracting the surplus by means of direct trading relations extended in the post-1864 period up to the level of the peasantry, a further proof of its superiority over the economic power of the Ottoman Center who rarely extended its economic relations beyond the boyar level.

However, the Center both prior and after 1830, relied on an intermediary class within the annexes to apply the policy of surplus extraction locally and redirect it towards its markets. Consequently, the successfulness of the Center's attempt of extracting the surplus varied with the intensity of its trade relations with the intermediary class and with the capacity of the latter of appropriating the surplus from its direct producer, which in the Romanian case were the peasantry. In the Principalities, the existence of a boyar class assured the successful implementation of the Center's policies at the local level through its disposition of engaging into a very lucrative trade with the Center characterized by a surprisingly constant exchange pattern over more than a century in that the surplus product was traded for luxury items.[148]

[148] Daniel Chirot, table P. S. Aurelian.

The remarkable extent reached by this trade was favored by specific developments at the level of boyar-peasant relationship defined by an intensification and diversification of the surplus extraction mechanism. In this sense, the mechanism of surplus extraction varied in form from tithe gathering and requisitions in produce to money payments and ultimately labor dues on the estate of the landlords, while in intensity it increased gradually as can be inferred from the constant rise in the number of labor days owed by the peasants which up to the Reglement Organique were usually converted in money payments. Under such conditions, the increment of labor days must be seen as a method of increasing the amount of money the peasants had to pay for defraying this particular obligation consequently forcing them to engage in market production accompanied by a redirection in their economic practices from livestock breeding to cereal cultivation in view of the increased profitability of the latter.[149]

In this sense, the mechanism of surplus extraction exhibited a triangular pattern with the boyar class interposed between the economic Center and the surplus producers in their position as trading partner with the Center and surplus collector engaged in close economic relations with the peasantry. The basis of the boyar-peasant relationship and the source of the formers' position of surplus collector rested on its control over the land in virtue of which it was entitled to a share of the peasants' production and to a corvee due amounting to various number of labor days. The Reglement Organique strengthen this ascendancy of the boyar over the peasantry since under the new regulation, the boyars received an unprecedented control over the land as a result of the limitation of the right of the peasantry to enlarge feely their cultivation in exchange for the payment of a tithe, to just two-thirds of the total surface of an estate and the transformation of the remainder one-third in something very similar to private property. This provision furnished the foundation for the subsequent establishment in the two

[149] Daniel Chirot, Op. cit. 97. John R. Lampe and Marvin R. Jackson. Op. cit. 166.

Principalities of a sharecropping system which provided the essential framework for the development of agrarian relations during the second half of the 19th century.

The sharecropping system had at its basis a contractual agreement between the landlord and the peasant, the former 'leasing' a portion of his land to the peasant in exchange for the payment of a tithe, amounting to a proportion of his production or to the equivalent of its value in money, or increasingly frequent, to the cultivation of a portion of the boyar's land in exchange for its own right to cultivate the 'contracted' land. Following a gradual erosion of the economic viability of the peasants household because of the constant disintegration of the family plots due to a particular nefarious system of inheritance, incomplete agrarian reforms in terms of land allocated and imposition of repaying obligations for the grants received complementing the constantly rising taxes,[150] all projected on the background of population growth limiting the amount of land available outside the boyars' or state's property, they were increasingly forced to hire themselves as contractual labor under the pattern set by the sharecropping system. As such, according to Chirot's estimation, as a result of the agrarian reform of 1864: 'In the hills, on the average, 48% of all serfs did not receive enough land. This amounted to 27% of all peasants. In the plains, 80% of all serfs received insufficient land. This amounted to about 67% of all peasants.'[151] Taking into consideration also the percentage of free peasants living on inadequate holdings and other variables not included by the author in its calculation, as he states it, like the peasants' household need for pastures and forestry products and the obligation to re-buy the land they have received and defray taxes, the number of peasants having to relay on extra lands contracted from the boyar estates was thus even larger. Moreover, Chirot depicted the situation of the peasantry immediately after

[150] Daniel Chirot. Op. cit. 130, David Mitrany. *The land and the peasant in Rumania : the war and agrarian reform (1917-21)* (New York : Greenwood Press, c1930, 1968), 62.
[151] Daniel Chirot. Op. cit. 129. This data compares favorably to the percentage of 18% of the peasantry living on holdings to small to assure the economic self- sufficiency of the household even allowing for a low standard of living proposed by Alan S. Milward and S.B. Saul. *The Development of the Economies of Continental Europe 1850- 1914.* (London: George Allen & Unwin LTD, 1977), 451.

the reform of 1864 while the economic situation of the peasant household declined continuously afterwards as a result of population growth, inheritance system based on division of the parental holding among heirs with the remainder of the country's arable land divided between state and boyar estates, in spite of recurrent state intervention to provide land for newly weds or to provide small plots from the state reserve for purchasing so that the peasant may restore within proper bounds the holdings received through inheritance.

However, what is remarkable within the sharecropping system is the constancy of the ratio of the amount of land cultivated with corn and wheat, the two main crops of the Romanian agricultural system, per capita of rural population. In the case of wheat the average allotment remained basically unchanged up to the outbreak of the First World War, while in the case of corn until the 1900s, under conditions of significant increase of the rural population during the relevant timeframe as emphasized in the first part of the chapter.[152] The statistical data in this sense strengthens Chirot's argument that until the turn of the century, the rural world was confronted with a phenomenon of relative overpopulation 'from the point of view of the peasant who did not own enough land' as compared with general overpopulation implying the shortage of land relative to the number of the population that was starting to be the norm in the years immediately preceding the Great War.[153] Powering this growth of surfaces cultivated tuned on the overall increase of the population was a systematic and impressive enterprise of clearing new land for cereal cultivation implying deforestation, drainage of swamps but more often conversion of pastures and meadows into arable land and widespread use of a system of cultivation alternating corn and wheat without allowing the land to lay fallow in order to restore its fertility, the latter two having a negative impact on the number of livestock.[154] Nevertheless, this trend of reducing the surfaces allocated to pastures

[152] Table with the surface of land per capita.
[153] Daniel Chirot. Op. cit. 136.
[154] P.S. Aurelian. Op. cit. 47; 68. Alan S. Milward and S.B. Saul. *The Development of the Economies of Continental Europe 1850- 1914*. 452.

in order to enhance grain cultivation had economic rather than demographic reasons. Although a crop- growing system of cultivation presupposes a more intensive use of the land in terms of food quantity output on equal units than an animal breeding- based system, the extension of the ploughed fields in Romania during the second half of the 19th century was mainly determined by the incentive of higher profitability pertaining to such enterprises rather than to a pressure on land caused by overpopulation. This is evident from a comparative analysis of the percentages represented by grain exports within the total harvest in Bulgaria, Serbia and Romania the ratio being accordingly 27%, 12.5% and 46%.[155] Adding to the considerable high figure of export quantities the amount of wheat consumed intra boundaries but not by the rural population and estimating it clearly under its true value at about half of the remaining quantities while presuming that all corn was used by the peasantry, significantly more than half of the total production was not employed within the rural world. This discrepancy between countries rested on the considerably higher percentage of arable land and grain output per capita in the Romanian case compared to the Serbian and Bulgarian situation, implying a much more developed cereal sector in the case of the former and a more balanced distribution and importance between livestock breeding and cereal cultivation and commerce in the case of the latter group.

These figures clearly demonstrate that the demographic model of explanation cannot be applied to the peculiar agricultural development of Romania. The inadequacy characterizing most of the peasant holding due to the insufficient amount of land indicating a relative overpopulation in the rural world was sufficiently balanced by the availability of land from the boyar estate dismissing any claims of absolute overpopulation at least until the turn of the century:

> The great estates therefore functioned as a frontier for the peasant population, providing them with a continuous supply of land and credit. But the effect of this process on peasant income and on the standard of agriculture of noble estate and peasant holding alike was exactly the

[155] John R. Lampe and Marvin R. Jackson. Op. cit. 173.

> opposite to that of the Siberian and American frontiers. The Romanian frontier held down peasant income and fostered labour- intensive methods of cultivation. The social and legal arrangements of the country nullified its greatest economic advantage.[156]

Such a distribution of the land gave way however to a particular setting of agrarian relations in which the peasantry in its quality of surplus producers found itself into a precarious economic position in relation to the boyar class who was able to fix as it pleased within this system the intensity of the surplus extraction. But the particular product representing the surplus was selected by the economic Center who favored cereal production over livestock and dictated what should be produced in the annexes through a complex of bilateral trade relations established with the boyars in their quality of surplus collectors at the local level. As a subsidiary phenomenon, the economic Center established latter in the century bilateral relations with the peasantry, although at a lower intensity than with the boyars, a greater significance having the unilateral relations linking peasants to the market in that they had to commercialize a portion of their harvest in order to acquire money to defray taxes and other monetary dues. Regardless of the variations and intermixtures in the various patterns linking the peasantry directly or indirectly to the market system, the Center directed their productive forces towards the production of a certain surplus favored by it with a remarkable effectiveness. Moreover, the particular social structure prevalent in the country did not permit the peasantry to benefit from the economic advantages accruing to this shift in view of a configuration of the surplus collection and benefit redistribution systems that greatly favored the boyar class over the peasantry. From the nutritional perspective advocated by the medical personnel, both developments had a nefarious consequence on the dietary patterns of the peasantry.

[156] Alan S. Milward and S.B. Saul. Op. cit. 452.

6.2. Economic and cultural feasibility of the medical recommendations

In advancing their recommendations about the proper construction of diets in line with the postulates of the nutritional theory, the medical men were well aware of the limitations imposed by the low economic standing of the peasantry in view of the acknowledged close relationship between dietary configuration and material possibilities. This is self-evident from the constant doubling of their discourse on strict nutritional aspects and recommendations with frequent appeals of reform and policies of economic improvement meant to enable the peasantry to actually comply with their advices as well as from their painstaking effort of arriving at a configuration of the diet theoretically acceptable while at the same time easy to implement without enquiring substantial expenses. Constantly concerned with the feasibility of their advices, the medical personnel engaged into a negotiation process aimed at finding a middle point between medical ideals and existing conditions implying a two-fold tactic of compromising by cutting down on those features of the reformed diet deemed too costly to be implemented and by forcing the application of those considered indispensable by rearrangements at the level of socio- economic conditions. In the context of this negotiation process emerged a discourse of the medical personnel on economic topics extremely interesting and valuable in view of the peculiar educational formation attached to the medical etiquette during the second half of the 19th century that emphasized the requirement of multidisciplinary knowledge and of the superposition of the medical profession with political career. Thus, an important number of the medical cadres well positioned in the professional hierarchy pursued also political activities as Members of Parliament, Ministers of the Health Department and even, as in the case of Istrati, heads of the Ministry of Commerce, Industry and Domains within a socio- cultural setting favoring such undertakings. In this qualities of members of an educated elite of society manifesting increasing interest in the situation of the peasantry, and active politicians complementing their status of direct contact persons with the

rural environment imposed by the nature of their profession and the workings of the promotion mechanism within the medical system, the medical men were engaged at the highest level in the intense debates on the proper means of improving the standing of the peasantry. In this sense, their discourse on the proper methods of elevating the socio-economic conditions from the rural world intermingled with the official discourse on the matter from which it borrowed the basic arguments and solutions and to which it added, as mentioned in the first two chapters, a medical dimension that stressed the acuteness of the social problem accentuating the need for implementing the common solution to the singular cause of both social and health disorders. However, in regard of their particular profession and interest as well as of their intimate knowledge of the conditions from the rural world, some of the economic measures proposed within the nutritional topic departed from the ordinary discourse on economic improvement lending specificity to their proposals.

As the recommendations of the medical personnel within the degeneration theme had their common point in arguing for an increase in the intake of animal products and the state favored theory on the etiology of pellagra indicated as the most suited measure for combating the disease the dissemination of the habit of bread consumption in the villages, the application of these advices implied in view of their nature a strong opposition and counter-measures to the customary economic trends defined earlier. Although the medical personnel supported and lobbied for the official policy of improving the peasants' standing as they considered that an advancement in this class's economic situation would be naturally translated into more healthy nutritional practices, the difficulties associated with the implementation of these policies induced them to seek and propose alternative measures of securing the improvement of the dietary patterns of the peasantry that to some extent departed from the customary state discourse. Two of these dissociations will receive special attention, namely the proposals of establishing economical rural bakeries in the villages and of stimulating livestock breeding

through specialization by geographic regions, since they provide the clearest examples of the pressure exercised by an adverse economic setting along with the mechanisms employed in the configuration of these remedies in order to accommodate their implementation with the existing economic situation.

Underlying the acute awareness of the medical personnel concerning the adversity of the existing economic profile to the implementation of any of their recommendations along with a conceptualization of its depressive effects on the dietary habits of the peasantry, was the emergence of an enduring sub-theme within the discourse on nutrition representing an adaptation of the versatile symbol of 'the good old days'. Differing in the emphasis placed on a specific cause but united in the general view that a deterioration of the peasants' diet was related to the grain spurt in production and exports, the majority of the medical personnel agreed that the peasants from past times practiced more healthy dietary patterns although the exact length of time the medical personnel lapsed in their search for appropriate diets varied accordingly with the particular cause attributed to their decline. The simplest expression within the medical discourse of the belief that historically the Romanian peasant used to feed better than his deprived successor is provided by Istrati's colorful depiction of the commonplace presence of wheaten bread in the old dietary configuration contrasting to its almost complete absence from the contemporary diets:

> In olden times, the Romanian peasant ate only bread. The Romanian soldier is always depicted having white bread at his horses harness. Nowadays, rarely can one see bread in the countryside; especially during summer, because of the amount of work in the fields, bread is absolutely missing.[157]

The reasons behind the disappearance of wheaten bread from the peasants' diet in Istrati's opinion are related to the intensification of trading relations with foreign countries resulting into an increased commercialization of this cereal:

[157] C.I. Istrati. *O Pagină din Istoria Contimpurană a României*. 235.

> Our country produces high quality wheat and in such quantities that it entertains a quite significant export trade in this produce…In our country wheat is cultivated rarely by the peasants. In general thesis, the inhabitants of Wallachia cultivate it in greater amounts that those of Moldavia… If they cultivate on their own account small amounts of wheat, they consume even less.[158]

Moreover, expending on the causes associated with the precarious standing of the peasantry contributing to the improper nutritional patterns eloquently described in his book, Istrati identifies as one of the main factors maintaining the peasantry in a miserable state, the unjust terms incorporated in the labor contracts between the peasants and boyars following the ineffectiveness of the land reform of 1864 of creating a stratum of economic self-sufficient peasant households capable of withholding the mounting pressure of various taxes:

> The decadent economic state of this population, which begun simultaneously with the introduction of the European institutions in our country, is frightening, at least in the parts where I have lived and visited. […] In our country, 90% of the people endowed with land, have sold their labor for the next 4-5 years, as much as they are able to do during the cultivation season. From 100 peasant household heads, especially from those having land, only 15 pay their dues without being forced to sell the land they were endowed with, or the draft animals, or their labor on for or five years in advance. Moreover, in not a single country of Europe, the laborer does sell his work for prices as barbarically low as in our case.[159]

Istrati was joined in his condemnation of the nefarious consequences of the sharecropping system developed after 1864 by Felix with the only provisions that the latter chose as the starting point for the decline of the peasants' standing an economic event going further back to the first half of the 19th century and added among the consequences following this pattern of agrarian relations the endemic character of pellagra among the peasantry due to consumption of moldy corn spoiled as a result of the improper timing in cultivation practices:

> Although our peasant is completely emancipated and owner of some few pogone of land, his economic situation is abnormal. At about 1834 started the development of the large-scale agriculture (in the opinion of A. Xenopol) and from that point on the peasant is consuming all his forces working for the big landowner or for his 'farmer'. In 1864 the serf became owner, but being poor, lacking the capital needed for working his small allotment more intensively…he is obliged to contract from the landlord or the 'farmer' extra amounts of land, which he pays not

[158] C.I. Istrati. *O Pagină din Istoria Contimpurană a României*. 234.
[159] C.I. Istrati. *O Pagină din Istoria Contimpurană a României*. 368- 369.

> with money but with work force, indebting his labor so that he does not have enough time to tend to his own fields; that is way he does not sow in time, does not cull in time […]. [160]

Developing further on the theme of 'the good old days', Urbeanu contrasts the precarious situation of the contemporary peasants' diet with that from a nutritionally idyllic time when the peasant ate milk and meat abundantly and cultivated cereals only for his own use, a proper diet transposed into an admirably state of physiological health:

> But in terms of food he did not know what privation was, in terms of beverages even less; there was no Romanian notwithstanding how poor who did not own few hogs and sheep; and wine was so abundant that for keeping the new one they wasted the old one. […] If the peasant's social standing one hundred years ago was most unfortunate, his organism was fed as properly and optimal as possible. Today, when the peasant enjoys a good social standing, his sources of food have declined to such a point that the olden hero arouses only compassion in those who describe his dietary practices.[161]

Adopting a more scientific approach to the problem of the quality of the present configuration of the peasants' diet in relation with the situation from past times, Urbeanu engages into a comparative analysis of the nutritional value of the peasants' diets from 1900 and 1860 by means of a reconstruction and estimation of the amount of each group of food items within their diets on the basis of the statistical information on livestock and grain production provided by the censuses already mentioned in the first part of the chapter. Based on simple computations on the number of livestock present in the country and the amount of corn produced without including such externalities as trade in animal products, Urbeanu's study revealed the marked discrepancy at the level of animal foodstuffs intake within the dietary practices of the peasantry from the two reference years with the corn allowance being identical:

> The above mentioned evaluations, based on the number of animals present in the country in 1860 and 1900 can replace the absent direct statistical information. They show undisputedly that the foodstuffs of animal origin (milk, cheese, pork and lamb meats) rose in a proportion much smaller relative to the number of the population, having as a consequence that today the peasants consume a much reduced ration of this substances than 40 years ago.[162]

[160] Iacob Felix. Profilaxia Pelagrei. 37
[161] Adrian Urbeanu. *Despre Caracteristica Alimentației Țăranului Român*. 3.
[162] Adrian Urbeanu. *Hrana Săteanului Român în cei din Urmă 40 de Ani*. 17-18.

The declining ratio of livestock relative to population was unanimously linked with the reduction in surface of pastures accompanying and being conceived along similar lines like those proposed by Aurelian as caused by the accelerated growth in cereal production:

> I think the cause [for pellagra] is the diminution of the number of milk-producing cattle and sheep, because of the narrowing and expensiveness of pastures. […] Until the 1870s, every village had its own common pasture land, called the village pasture, together with the landlords. This latter group, considering the arrangement unjust, has asked for the separation and distribution of the common pastures to each individual in relation with the dimensions of his respective holdings, a request ultimately granted. The result was that the common pastures disappeared because every peasant has plowed and sown his part of land and consequently also milk disappeared from his diet and the peasant was reduced to the exclusive alimentation with corn and pellagra emerged.[163] […] The lack of milk cattle comes from the fact that especially in the past 20 years cattle breeding was neglected, cereal sowings expanded, and there was no room left for pastures. Grazing lands, pastures, hey land were reduced and we remained behind in terms of sowing fodder plants.[164]

From a nutritional perspective, the peasantry were affected both by the unfavorable terms embodied in the sharecropping system emerged in relation with the development of the grain trade and by the nature of the shift in cultivation system itself since the declining number of livestock depraved them of the dietary items allegedly complementing mămăliga in the traditional dish.[165] In regard of the first aspect, the medical personnel considered that a softening of the terms of the contractual labor through state intervention in the agrarian relations between peasant and boyar will result in a better social standing for the former which will inevitably be translated into an improved nutrition. In this sense, the recommendations of the medical men were synonymous with those arguing for a change in the agrarian relations by means of state intervention in the free contracts between peasant and boyar by measures like fixing maximal quantum of labor obligations, introduction of a mixed peasant- boyar risk and benefit shared system of land cultivation[166] or even the completion of an agrarian reform

[163] Ioan Neagoe. *Pelagra si Administrația Noastră*. 34-36.
[164] Iacob Felix. *Laptele. Puterea sa ca hrană şi producerea lui*. 12-13.
[165] Daniel Chirot. Op. cit.
[166] P. S. Aurelian. *Sistemul de Cultură în Metaiagiu*. (Bucharest: Imprimeria Statului, 1890)

that would allow an independent economic life for the peasant household.[167] From this general point of view, the opinion of the medics concerning the most suitable means of improving the peasants' economic situation that would allow him to meet the nutritional standard recommended were identical with the official policies of the state concerning the agrarian problem:

> Concerning the prophylaxis measures, the executive power and the legislative bodies have understood that pellagra cannot be checked otherwise than through radical measures, through the elevation of the social and economic standing of the peasantry. Although, the confinement of pellagra did not provide the exclusive purpose for the measures taken for improving the situation of the peasantry, these will become the most powerful weapons against this terrible endemic disease.[168]

Moreover, for providing a secure measure of improving the peasants' diet, the medical personnel considered opportune to reverse the declining trend in the number of livestock by promoting animal breeding, especially of milk animals. The underlying argument governing this policy was that by allowing the peasant to raise cattle, sheep or goats, he will employ at least a part of the derived dairy products for his own consumption. This assumption was challenged from within the medical profession itself on the claim that because of the poor economic standing, the peasant will be forced to sell these products in order to meet the household expenditures as it usually happens in the villages neighboring and supplying cities:

> As soon as a village is close to the city, the eggs are used for breeding chickens to be sold on the city market, or the eggs themselves are sold. The curious fact is this, that in our case, the villages are wealthier, their inhabitants feed better, as further they are from the cities.[169] […] As further a village is from the principal cities, as much the people inhabiting it consume more eggs, and this because the villagers, not having the opportunity of selling them, eat the eggs.[170] [...] Today, our peasants only rarely eat from the milk or butter they produce, the larger part of them being sold to the publican in exchange for alcohol or to merchants in exchange for needles, ribbons and decorations.[171]

[167] Ioan Neagoe. *Pelagra în România*. 21-22; Idem. *Raport asupra Misiunei in Străinatăte*…56; Iacob Felix. *Profilaxia Pelagrei*. 34-35.
[168] Iacob Felix. *Profilaxia Pelagrei*. 34-35.
[169] C. I. Istrati. *O Pagină din Istoria Contimpurană a României*. 256.
[170] Manolescu. *Igiena Țăranului*…267.
[171] Iacob Felix. *Laptele. Puterea sa ca hrană şi producerea lui*. 8.

On the other hand, the only way to make livestock breeding profitable relative to cereal growing was to sell the dairy products on the market in view of the high prices fetched as a result of their scarcity. However, because of production limitation, not all the components resulting from the production of butter, cheese, or butter milk could be sold, the residue or low quality items considered to be relatively nutritious remaining for the household own consumption.

Still, because of the more profitable concurrence from cereal growing in the plains and the absence of a large urban population able to pay the high prices needed to maintain the marginal profit of the livestock enterprise over crop cultivation, the medical personnel redirected their attention towards two diverging solutions in view of the magnitude implied. The first referred to the already mentioned introduction of less land-requiring milk animals, goats mainly, which could supply a family with the amount of dairy products needed and represented the small scale solution to the shortage problem. The second one alluded to large scale implementation of milk animals breeding in the hilly regions ensuing into an agricultural specialization on geographic regions.[172] Supporting such initiative was the relative unsuitability for grain cultivation of the hilly regions emphasizing the need of redirection towards relatively more profitable enterprises with a number of variants proposed: fruit production, potato cultivation and finally animal breeding.[173] The ideology powering this policy and its envisioned impact on the value of the dietary patterns of the peasantry has been masterfully summarized by Istrati as follows:

> An important share in the in the present precarious situation is attributable to the declining number of milk animals because of the expansion of extensive crop agriculture. It is not humanly possible to have on the same surface of land in the same time grain harvests, for the production of exportable wheat, and grazing lands for livestock breeding. The plains in our case should be entirely allocated for cereal productions while the hilly and mountainous regions for

[172] Iacob Felix. *Profilaxia Pelagrei*. 41.
[173] Ioan Neagoe. *Pelagra in România*. 57; Ioan Manolescu. *Causele care Presideaza la Răul Trai al Ţăranilor şi Mijloacele prin care se poate Ameliora aceasta Stare. [The Causes that Contribute to the Poor Living Conditions of the Peasantry and the Means by which this State can be Redressed]* (Bucuresti: Imprimeria Statului, 1897), 7.

> cattle and sheep raising. Pastures in the plains are an impossible thing; cereal cultivation on hills and further up should be an exception.[174]

This kind of production specialization never came into being and it was hardly feasible as it presupposed intense internal commerce and, moreover, an economic situation of the peasants from the plain regions that would enable them to procure the supposed dairy products. However, it is interesting to note the line of reasoning employed by the supporters of the specialization theory with their careful preoccupation for not interfering with wheat production and exports. Within the same confines Aurelian conceptualized his solution for stimulating livestock breeding by arguing in favor of a return to the mixed-cultivation system alternating fallow land used for grazing with land under cereals. The solution will provide a relatively larger amount of pastures for animals while at the same time canceling the presumed loss in the quantities of cereal produced entailed by the reduction of the cultivated area by means of higher fertility assured by the practice of allowing the land to recuperate its organic material by natural vegetation and by employment of animal fertilizer: 'In modern agriculture it is acknowledged as an undisputable truth that with as much a country possesses more cattle, the land is better cultivated and produces more. Domestic animals are useful not only in satisfying the needs of public alimentation, but also are the most useful assets in agricultural labor. […] The same results [high production of cereals] can be reached, even more favorable ones, by practicing a more rationale cultivation system.[175] His recommendations for system changes were viable for large estate only as the small holding would not be able to economically sustain itself during the time lag implied by the transition to such a system. However, coupled with the metaiagiu system, the nutritional advantages guaranteed by the increased number of livestock would percolate down to the peasant level.[176]

[174] C. I. Istrati. *Cum şi cu ce Trebuie să ne Hrănim.* 29.
[175] P. S. Aurelian. *Terra Nostra*. 115; 127.
[176] P. S. Aurelian. *Sistemul de Cultura in Meteiagiu*. 39.

The same preoccupation with the main export item of Romania constituted the basic argument of the adversaries of Neagoe's proposal for disseminating bread consumption in the villages. This economic argument was utilized mostly by the supporters of the spoiled corn theory who saw no advantages in the replacement of mămăligă by bread and tried to raise support for their measures by emphasizing the important expenses incurred by the displacement at the level of core foods. Faced with such opposition, Neagoe came up with a compromise solution that would furnish the state with the basic principles around which to shape its pellagra prevention policies. As the first among a series of compromises, Neagoe limited his intention of substituting bread for corn to a ratio of 2 days mămăligă one day bread as already mentioned earlier. Once fixed the mount of bread intended to be entering into the peasants' diet, Neagoe focused on the most appropriated means of supplying the respective quantity. The solution he proposed was the naturalization of the 'forno rurali' - rural bakery - system employed in Italy who excelled in terms of economically producing high quality bread. The system of rural bakeries would be implemented with the aid of the state who will provide the initial investment for establishing the bakery, subsequently the enterprises becoming self- sustainable but however non-profit oriented, due to the requirement of maintaining the price of bread low. The price of bread will be fixed by adding the value of flour used, fuel and expenses needed to cover the services of a baker. Moreover, for increased viability, Neagoe proposed the importation of the utensils used in the Italian bakeries that have proved to be time - and fuel - saving. Chronicling the good result obtained by the Italian rural bakeries in depressing the price of bread in the nearby regions where they were established, Neagoe was confident that the same result could be easily obtained in the Romanian case. Furthermore, in order to make its solution even more appealing, Neagoe was ready to make another compromise by renouncing to the white bread produced by the Italian rural bakeries and accepting as the main ingredients of the Romanian bread an admixture of

wheat and rye or even corn.[177] The latter ingredient was introduced to indulge the adversaries of his policy on the grounds that the peasant was too accustomed to mămăligă in order to renounce to it for bread.[178] In spite of the acceptance of the compromise of using corn in bread 'so that the peasant would not be deprived of the preferred taste for corn', Neagoe cared to reply to the proposals of this 'disgraceful' hypothesis that in fact bread was more valued by the peasant than mămăligă. This attitude is made clear by the employment of wheat- based products during festive meals or commemorations as well as in the usual celebration of a good sale in the city 'when the peasant usually returned home with a loaf of bread bought from the city.'[179] Moreover, within a stratified rural world the rich peasant usually ate more bread while the poorer peasants tried as much as possible to imitate their wealthier neighbors at least during the major holidays. Overall, bread consumption become a distinctive sign attached to a certain economic status whose viability was enforced by the expensiveness of the main ingredient even more so as there were a variety of types of bread attached to various social standing with the whitest bread employing the purest wheat symbolizing a high rank status being the most valued in spite of frequent exhortation by the medical community that in fact black bread is much more nutritive. Within such a complex of meaning, the decision of the state and of the poporanist movement of incorporating the dissemination of bread among the rural world within their political programs of elevating the social standing of the peasantry had an important implicit propagandistic message. On the whole, the thoroughness and the efficiency of Neagoe's plan of disseminating bread cheaply combined with the above mentioned significance attached by the peasantry to bread consumption as well as the stringency of the pellagra problem and the model set by Italy in combating the disease convinced the state to offer its support to the establishment of the rural bakeries.

[177] Ioan Neagoe. *Pelagra în România*. 27.
[178] Nicolae Manolescu. *Igiena Țăranului Român*. 275.
[179] Ioan Neagoe. *Pelagra în România*. 59; Nicoale Manolescu. *Igiena Țăranului Român*… 275- 277; C.I. Istrati. *O Pagină din Istoria Contimpurană a României*. 234-238.

6.3. State legislation: political solution to an economic problem; successes and failures

The first rural bakeries in the format described by Neagoe were established under the joint patronage of the Ministries of Agriculture and Internal Affairs headed by P.P. Carp and Lascar Catargiu in 1894, within a comprehensive set of policies against pellagra shaped in accordance with the 'deficiency' model of understanding the disease which also included the establishment of rural cafeterias and special asylums for the pellagrins, overall, the precise set of measures advocated by Neagoe.[180] However, the dismissal of the Conservator government sponsoring this undertaking prevented the implementation and completion of the laws regulating the creation of three experimental rural bakeries, the issue of the dissemination of bread consumption in the rural area subsiding for nearly one decade. The problem concerning the opportunity of the establishment of rural bakeries reemerged under the condition of growing concern in face of the rising number of pellagra cases, in 1903 the government lead by D. Sturdza decreeing the establishment of two experimental rural bakeries. At this point, the issue of bread dissemination in the rural world was firmly incorporated into the political agenda of the poporanist movement who set as a priority in its policy of improving the standing of the peasantry, the enhancement of bread consumption within the dietary practices of the peasantry[181]: 'We have 100000 pellagrins - and this is what the official data indicate. We are a pellagrous people, and this dreadful state threatens the very existence of the country. In this situation, the preoccupation of the poporanists to replace corn with wheat is not only legitimate, but also important and sympathetic to the highest degree.'[182]

Although the rising concern over pellagra boosted the state measures for implementing bread consumption in the rural world through the system of rural bakeries, the state's interest

[180] Ioan Neagoe. *Pelagra în România*. 10.
[181] Adrian Urbeanu. *Despre Caracteristica Alimentației Țăranului Român*. 5; 7.
[182] Constantin Dobrogeanu- Gherea. *Neoiobagia. [Neoserdom]*. (Bucharest: 'Viața Românească', 1946), 256.

in enhancing the consumption of this particular item emerged earlier than the configuration of the pellagra issue along the lines advocated by Neagoe and was linked with an overall strategy of improvement of the peasants' standing. In this sense, during conscription, the peasants were subjected to a dietary regime constructed around a principle emphasizing the need for continuance with the nutritional practices of the recruit, but also directed towards reforming such practices, the drafting system having a powerful formative purpose. Consequently, the official regulations concerning the dietary regime of the conscripts included minutiae details about every item forming the daily allowance amounting to a diet constructed in careful consideration with the dietary theories prevalent at that specific moment. Thus, within the recruit's diet, mămăliga was replaced by bread which was complemented with important quantities of secondary animal products. Keeping in mind that the nutritional theory did not differentiate so markedly between the nutritional value of mămăligă and bread, the state's special interest in introducing bread points again to a more propagandistic aim of creating an image of a benevolent state among the peasant recruits in view of their high consideration of bread consumption. However, the habit of bread consumption was not imported by the recruit in his own household following his release in spite of the long drafting period arguing for a thorough appropriation of the custom of eating bread because of the specific arrangement of the agrarian relations and economic standing of the peasantry.

Aware of these shortcomings of just accustoming the peasant to eat bread without offering the economic possibility of translating it into practice, the poporanist movement adopted and readjusted Neagoe's rural bakeries system for implementing bread consumption in the villages. However, the poporanist strategy came under the attacks of Dobrogeanu-Gherea on the grounds that, in fact, the dissemination of bread consumption cannot fallow a mere introduction of rural bakeries or common ovens for bread making in view of the absence

of such utensils from the peasant dwelling, as the practice of consuming mămăligă instead of bread was the consequence of deep economic and social structures:

> This mode of alimentation, as an economic- social phenomenon, is strongly intertwined with the neoiobag [neo-serfdom] regime and will not disappear unless this regime disappears also. Thus, the explanation of the so strange and sad fact that we are the only modern country in this world, where the population subsists exclusively on corn, resides in the no less deplorable situation that we are the only neoiobag country among all the modern countries.[183]

Understood in this way, the poporanist approach to the problem of disseminating the custom of bread consumption in the rural world cannot be successful since such displacement requires major reconfigurations at the socio-economic level. The stimulation of bread consumption through rural bakeries is not a viable solution in spite of the attempt of keeping its price within normal limits simply because wheat flour was too expensive and the peasant sold it in order to cover taxes and other dues and would not have the money to re-buy it back under the form of bread. The system of rural bakeries could be established profitably only under conditions of an increased consumption of wheat within the rural world implying a reduction in the exported quantities which could not happen under the present configuration of the sharecropping and taxation systems.

In this sense, the major break in bread consumption was effected by a joint socio-economic measure, namely the land reform of 1917-1920 that reconfigured the agrarian relations by putting an end to the sharecropping system and by a politico-propagandistic action of the post-war government of imposing export duties on wheat in order to enhance the internal supply. Although the measure clearly increased the internal consumption of wheat accompanied by a reduction in wheat prices and consequently, a reduction of the surfaces of land cultivated with this cereal as the profitability of its cultivation shrunk, it is debatable how much these changes affected the dietary patterns of the peasants from the Old Kingdom as the consumption of wheat was larger in the territories acquired after the end of the War. However,

[183] Constantin Dobroageanu-Gherea. Op. cit. 260.

the emergence of rural bakeries in most of the villages of the former state indicate that bread consumption was making considerable headway in the rural world, powered by the decline in wheat prices, the improvement of the peasants' standing following the reform and the absence of ovens from the peasant dwellings coupled with the efficiency of large-scale bread making as indicated by the exhaustive Neagoe's plans for his 'forno rurali'.

7. CONCLUSIONS

'Diet Changes and Society' is a fervent plea in favor of the complexity of commonplace phenomena against any simplistic approach to the subject. It argues that varied structures of society contribute and intermingle within a specific configuration of the diet and reciprocally a proper study of the dietary practices of a population can diverge into any aspect of society by retracing its impact on the structure of the diet. The case- study of 'The shift from mămăligă to wheaten bread in the case of the 19th century Romanian peasantry proposes to illustrate this claim by highlighting the close relationship between a particular change in the dietary patterns of the peasantry and social, economic and cultural settings and systems at various levels ranging from the micro- region of communal life to the grand- scale of international trade and politics.

For a clear illustration of my argument I have focused on the medical discourse on the peasants' dietary patterns as their peculiar function in the state apparatus placed them in direct contact with the rural world while at the same time the prestige of their profession and the excellence of their education maintained them in close connection with the political forces and the public elite. Consequently, their narrative on the peasants' nutritional practices combined an overview of the cultural meanings and symbols attached by the peasantry to their dietary practices with the penetrating insight into the nature of the economic limitations and conditionings pressing the peasantry towards the adoption of a certain configuration of their diets. Moreover, their interest into the nutritional aspects of the peasantry was stimulated by the nature of their profession under conditions of an overall ideology of health and disorder that stressed the centrality of proper nutrition as a guarantor of public health. Under conditions of perceived poor health conditions in the rural world, almost the entire medical literature on nutrition had as its central motive the reformation of the peasants' diet in view of an ideally constructed dietary configuration shaped in accordance with the postulates of a

general nutritional theory. In this sense, the medical discourse stressed the need for change, for breaking with established patterns of consumption leading to an intensification of the search for proper means for enacting their recommendations and, consequently, to an acute awareness of the strong ties maintaining a certain disposition and profile of diets that only moments of rapture or intents of producing a break with the past can highlight. Furthermore, their elevated upbringing and the eclecticism of their knowledge characterizing their formation and the imperatives attached to their privileged position within the intellectual elite and the political community provided them with the knowledge necessary for constructing a cohesive social and economic framework within which to address the problem of dietary changes and to identify the various constraints reducing the choices of the peasants to a diet they considered under the physiological minimum.

Spurred by a new ideology of the modern state emphasizing the need of integrating the peasantry as the larger part of the population into the 'nation', the medical discourse employed the same concepts and meanings in politicizing its message in an attempt of lending practical use to their recommendation by means of acquiring the support of the state for the implementation of their recommendations. Consequently, the discussion surrounding the nutritional patterns of the peasantry are transferred into the political realm and processed within a negotiation mechanism deciding over the proper action in regard of the nutritional problem in view of its immediate or perceived interests and priorities, benefits, relative losses, available means. Within this rational calculus aiming at securing an acceptable solution under existing conditions for the dietary problem, the complexity of factors concurring in the shaping of the diet are further highlighted within a decision- process aiming at proposing a practical solution for the improvement of the peasants' nutritional practices, thus adding a note of pragmatism to the overall policies. The most eloquent example of the state's approach to the recommendations of the medical personnel for the improvement of the peasants' diet is

offered by its attitude towards the medical suggestions on the most effective measures for tackling pellagra, the only medical discourse centered on nutritional patterns that reached such a high degree of politicization to provide the basis and motive for a sustained intervention from the part of the state. Aware of this selective practice of the state, the medical personnel engaged into a process of refining their recommendations in order to make them more attractive by confronting their medical ideals with the perceived limitations and obstacles allegedly hindering their implementation in search for a compromise commonly reached by means of sacrificing the nutritional value of the reconfigured diet simultaneous with appeals for the improvement of the peasants' standing in order to be able to reach at least the minimal recommended level.

Overall, the strict medical discourse on nutritional aspects was doubled by a socio-economic discourse addressing such topics as causes for the present decadent nutritional standing of the peasantry and the most suitable means for redressing the situation. Along with the attitude and policies of the state towards the nutritional deficiencies highlighted by the medical personnel, this discourse offers the strongest argument in favor of the inextricably fused nature of the dietary configuration and the socio- economic setting in which the peasantry were embedded.

However, in order to test the validity of this argument, the discussion on the nutritional patterns of the peasantry has to be widened in order to include pertinent analysis of their dietary configurations under different economic or social settings. In this sense, the study has to be pushed further in time in order to account for the situation of the peasantry within a different social setting inaugurated by the land reform of 1917-1921 or to focus on moments of rupture in the usual social fabric as those inaugurated by the revolution of 1848 and by the reform of 1864 that resulted in peculiar social behavior due to the conviction of the peasantry that they are free of any obligation to the landlord. Likewise, the study of the impact on

nutritional practices of the changes in cultivation systems has to be accounted for by means of an analysis of the particular configuration of the peasants' dietary practices during the first half of the 19th century, in other words before the spurt in cereal cultivation and under condition of a more balanced distribution of land among livestock breeding and crop cultivation. Particularly, these two coordinates – character of social relations and profile of the economic activities- have to be individualized and treated separately in order to asses their respective impact on the nutritional patterns of the peasantry as well as the feasibility of the medical recommendations focusing on just one or the other aspect. Furthermore, the relative overemphasis of the medical discourse and its impact on the peasants' nutritional patterns and on the state policies aiming at improving them has to be tempered by a more thorough survey of the alternative discourses on the peasants' nutrition, as it seems that they exercised a considerable influence on the particular character and precise direction of the state's policies. Subsumed to such a discussion, within a proper study of the state's attitude towards the nutritional problems of the peasantry has to be to a certain degree personalized as it is certain that the particular configuration of the political system favoring the great landlords influenced in an important degree the level of receptivity of the medical advices arguing for social reform in the villages.

Overall, to avoid the usual danger of one-sidedness and simplification by means of explanations based on a preeminent factor in treating the phenomena of dietary changes, the particular approach presented in my thesis and highlighting the influence of economic factors in shaping people's diet has to be complemented with extensive information on the cultural and socio- political aspects pertaining to such processes.

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