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THE HISTORY OF PATHOCOENOSIS OF THE MEDITERRANEAN AREA: DISEASES, ENVIRONMENT, CIVILIZATIONS

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Abstracts

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ARRIZABALAGA Jon, Institució Milà y Fontanals, Barcelona
Grmek's Construction of Pathocoenosis

Mirko D. Grmek's most relevant theoretical contribution to history of disease was his concept of pathocoenosis (*pathocénose*). This paper is aimed (1) to explore his inspiration sources to develop this concept; (2) to analyse to what extent he applied it to his disease monographs, specifically on with particular emphasis on the origin and dissemination of syphilis as an alleged case of a rupture of pathocoenosis; and (3) to explain why this concept waned during the last decades of the 20th century.

BARONA Josep L., Universitat de València, Valencia
Pathocoenosis and Social Action. Building "the Children's Problem" in Spain 1900-1930

Starting the 20th century, the *children's problem* was defined in Spain. It was shaped according to four dimensions: health, instruction, working conditions and delinquency. The *Act for the Protection of Children and Begging Repression* (1904) represented a wide social and political programme of intervention including: baby care and first childhood protection; hygiene and education; begging and vagrancy; patronage and parents correction; and legal and legislative developments. Milk depots were founded in province capitals (1913), regulation of breast feeding took place, a National Institute for Maternology was planned, as well as mother-child health care dispensaries, school doctors, summer camps, and children's canteens. The legislative reforms also sought to regulate the real operation of asylums and orphanages including assessment and inspection, to prevent child abuse, and guarantee the observance of health regulations. The present paper analyses legislative, social and political measures taking part in the definition and control of the newly built "children's problem", as main tool for the so called social regeneration. Special attention is paid to the urchin, maladjusted child, as a case study.

BORRI Matteo, University of Geneva
The Pathocoenosis of Psychotic Disorders

During the 19th century the experience and suffering of those "alienated" became a crucial part of the field of medicine. The description of the large amount of symptoms, and the development of definitions in the growing psychiatric nosography, founded a new cognitive field. In this context, different knowledge acted and interacted (organizational, legislative, medical, literary); these outlined a "population" of psychiatric diseases which were different regarding both research (biological, psychological) and nosographic structures. These nosographic delimitations can be described in terms of pathocoenosis relating to: a) the relationship of indifference among diseases (especially because of the difficulty in establishing a nosography of mental diseases), and b) the aspects of environmental and cultural synergism (symbiotic relationship). My speech will analyze the nosographic development of the specific group of neuroses – paying particular attention to hysteria – as a relationship between a medicalizational course (Freud) and the socio-cultural conditions of the 19th and the 20th centuries (Mantegazza).

COSTE Joël, Ecole Pratique des Hautes Etudes, Paris
Une approche de la pathocénose de la France à l'époque moderne. Malades et maladies dans les recueils de consilia et consultations (milieu XVIe siècle-début XIXe siècle)

L'étude des pathocénoses anciennes nécessite le recueil et l'analyse des traces ou plutôt des *séries de traces* laissées par les maladies dans les archives. Pour les périodes antérieures à la seconde moitié du XIXe siècle, où fut progressivement mis en œuvre, dans les pays

occidentaux, un recueil systématique, organisé et structuré de données de morbidité en population, l'historien des pathocénoses doit souvent recourir à de multiples archives de nature diverse (textuelle, iconographique, biologique, etc.) pour n'obtenir qu'un tableau ébauché et au mieux pointilliste des conjonctures et structures pathologiques des anciennes sociétés. Les traces de la morbidité laissées dans ces archives anciennes sont par ailleurs souvent difficiles à interpréter : pour ne parler que des textes, les descriptions et les informations sur les maladies et les états de santé qu'on y trouve étaient en effet *formatées* par le système de référence ou de classification des maladies en vigueur, la nosologie médicale du moment. Or la nosologie médicale a été (et est encore) en évolution constante, et a parfois connu de profondes transformations qui exigent des précautions particulières de la part des chercheurs abordant les anciens textes. Toutefois, et contrairement à une légende tenace, ces dernières difficultés ne sont pas toujours insurmontables. Dans cette communication, nous examinerons les intérêts et les limites d'une source textuelle pour l'épidémiologie historique et l'étude des pathocénoses de l'époque moderne : les recueils de consilia et consultations assemblés en France du milieu XVI^e siècle au début XIX^e siècle. Nous examinerons successivement leur structuration et leur contenu, les modalités de leur analyse puis nous déterminerons les conditions dans lesquelles ces sources peuvent permettre d'évaluer la fréquence des maladies (et des états de santé au sens large) dans les populations ou sous-populations anciennes. Ceci nous conduira à préciser et à distinguer les notions de diagnostic rétrospectif, de diagnostic rétrolectif, et de catégorisation épidémiologique historique et à considérer leur application sur les recueils de consultation pour caractériser la ou les pathocénoses de la France à l'époque moderne.

DHOMBRES Jean, Centre Alexandre Koyré, Paris

An Historical and Philosophical Perspective About Mathematical Modelling of Phenomena like Pathocoenosis

It is certainly from Ludwig van Bertalanffy and his *General System Theory* after the Second World War, that the ideal of a possible logico-mathematical deduction for biology was developed. The insistence on mathematics was not so technical, but rather a sign that vague assumptions should be avoided by using the axiomatic device which had been so successful in the hands of Euclid for geometry, and Hilbert and von Neumann for XXth century physics. The idea was to avoid any metaphysics, so that the program was in line with the first Vienna Circle. But at the same time, it was induced that "exact ontological bases" were to be found. One may roughly describe Thom's theory of catastrophes along the same lines, the purpose being to a priori get general laws from differential systems without solving them. Volterra's far earlier attempts to bring most modern mathematics into Life Sciences were essentially different, paving the way to modeling theory. Essentially it meant using computational methods to reduce complexity on very local problems, but the same differential systems were used. And, as is well known, a new epistemology of complexity emerged in recent decades, a holistic one, so suitable to some sociologists, but more or less rejecting differential systems as too reductive. My purpose in this presentation is to use Pathocoenosis or related phenomena, as a case to think about epistemological issues on the use of mathematics to describe reality, whether it is an observed reality or a constructed one.

FANTINI Bernardino, University of Geneva

Une rupture de la pathocénose à l'aube de la civilisation occidentale: l'arrivée du Plasmodium falciparum et l'explosion du paludisme

En utilisant les évidences produites ces dernières années par les diverses disciplines, telles que l'histoire de la médecine, la philologie, l'archéologie, la paléopathologie, la génétique des populations jusqu'au séquençage des génomes des parasites et des vecteurs, la conférence veut

proposer une mise à jour du débat sur la diffusion du paludisme dans la méditerranée à l'âge classique et l'impact de cette diffusion sur les théories médicales.

FATOVIC-FERENCIC Stella, Croatian Academy of Sciences and Arts, Zagreb

Amatus Lusitanus Sixth Centuria as the Mediterranean Region Case Study

Amatus Lusitanus (João Rodriguez, 1511-1568) was one of the most prominent Renaissance physicians, well known throughout Europe. He practised in Portugal, Spain, Holland, Greece (then part of the Ottoman Empire) and the Ragusan Republic (Dubrovačka Republika), and was professor of anatomy at Ferrara University. One of his principal books, a huge volume that won international acclaim and relates his experience, is called *Curatationum medicinalium centuriae septe*, with 700 case histories. The sixth of the *centuriae* contains descriptions of 100 cases he treated as the principal physician in Dubrovnik. It gives splendid insight into the contemporary medical and cultural situation of Dubrovnik, as well as information on Amatus' medical practice during the three years that he spent in Dubrovnik.

The diseases he describes include a variety of skin afflictions, dysentery, syphilis, heart problems, various fevers, bleedings, coughs and tuberculosis, etc., and is a good starting point for investigation of regional pathocenosis of the period.

FAURE Eric, Université de Provence, Aix-Marseille 1

La distribution de l'allèle CCR5 Delta 32 résulte-t-elle d'une rupture de pathocénose due à l'expansion romaine?

L'étude des grandes épidémies du passé peut nous aider à mieux comprendre l'évolution des épidémies actuelles ainsi que leurs conditions d'émergence et de déclin. Cette étude passe, entre autres, par l'analyse des génomes actuels qui constituent une sorte de livre d'histoire pouvant garder des traces indirectes des maladies qui ont affecté les populations humaines.

Dans les populations européennes actuelles, la mutation *CCR5 Delta32* existe à une fréquence élevée, en moyenne 10%, avec un gradient sud-nord, fréquence très faible sur les bords de la Méditerranée et augmentant progressivement en montant vers le nord. Cette distribution continue de faire l'objet de nombreux travaux et hypothèses. Il a été montré que cette mutation protège du sida, mais cette maladie est trop récente pour avoir pu influencer la fréquence de mutation. Il faut donc chercher la réponse dans des événements plus anciens. Des auteurs ont proposé que les Vikings ou les Ouraliques auraient diffusé cette mutation lors de leurs contacts avec d'autres populations, mais ces contacts étaient trop restreints géographiquement pour expliquer l'intégralité de la distribution actuelle de la mutation. De même, divers auteurs ont supposé que la mutation sur le gène *CCR5* était due à une pression sélective pour lutter contre la peste bubonique ou la variole; mais d'autres travaux apportent divers arguments en défaveur de cette hypothèse. D'autre part, l'influence de facteurs climatiques et environnementaux a aussi été recherchée, mais sans succès. Nos travaux ont montré qu'il y avait une corrélation entre la fréquence de la mutation et les dates de colonisation de diverses régions d'Europe par les Romains ou par les autres grandes civilisations méditerranéennes de l'Antiquité. Plus les régions ont été conquises tardivement par les Romains, plus la fréquence de mutation est élevée et les fréquences les plus élevées se trouvent dans les régions jamais colonisées. Mathématiquement, on trouve une corrélation entre la fréquence de mutation et la date de colonisation, et aussi entre la fréquence de mutation et la distance par rapport à la frontière de l'empire romain lors de son extension maximale. Si on admet qu'en Europe, la fréquence de mutation était au départ très élevée dans toutes les populations (comme le suggèrent les travaux sur l'ADN ancien), cela signifierait que les Romains auraient été responsables de la diminution de la fréquence de la mutation dans les régions colonisées. Comme les flux de gènes des Romains vers les autres

peuples ont été très faibles, la cause est indirecte, il pourrait s'agir d'une maladie apportée par les Romains dont l'agent infectieux avait préférentiellement des effets délétères chez les individus porteurs de la mutation. En effet, lors d'une infection par le sida, la mutation a un effet protecteur tandis que lors de l'infection par d'autres agents, comme le virus West-Nile, la mutation a un effet délétère. Donc les Romains auraient pu contribuer à la propagation d'une maladie du type West-Nile; il pouvait s'agir, soit d'une maladie strictement humaine, soit d'une zoonose pouvant affecter les hommes. En effet, il s'avère que les Romains ont répandu en Europe de nombreux animaux domestiques (mulets, ânes, chats, faisans...) et aussi, involontairement, le paludisme avec les moustiques vecteurs. Nos travaux actuels portent sur la recherche de la nature de l'agent infectieux responsable du changement de fréquence allélique.

JACQUART Danielle, Ecole Pratique des Hautes Etudes, Paris
Les maladies dans les Practicae médicales de la fin du Moyen Age

Dans quelle mesure les textes écrits par les médecins de la période médiévale en Europe occidentale peuvent-ils apporter des indices exploitables pour identifier les pathologies le plus fréquemment observées? Etant donné la complexité du cadre nosologique — hérité en partie de l'Antiquité grecque, mais aussi fortement infléchi par les auteurs byzantins et arabes — dans lequel s'inscrivaient leurs descriptions, faire le partage entre la reprise de tableaux conçus dans des périodes et des aires géographiques fort diverses et la prise en compte d'observations issues d'une pratique effective, s'avère très difficile. Faut-il pour autant renoncer à utiliser cette abondante documentation, qui, pour la période médiévale, constitue la source principale d'informations disponibles sur la morbidité? C'est à ces questions que nous tenterons de répondre, en prenant appui sur un genre d'écrit médical qui se développa au tournant des XIII^e et XIV^e siècles: la *Practica*. Composé le plus souvent par des médecins universitaires fortement engagés dans une pratique et dans la formation de futurs praticiens, ce genre d'écrit prend certes pour modèles les ouvrages grecs ou arabes — et tout particulièrement le *Canon* d'Avicenne — mais une certaine actualisation des préoccupations s'y discerne. La simplification du cadre nosologique, l'amplification de tels ou tels tableaux, la référence à l'expérience vécue du praticien peuvent servir d'indices. Au sein de ce genre, le *Lilium medicine* de Bernard de Gordon composé au début du XIV^e siècle à Montpellier joua un rôle décisif. Largement diffusé jusqu'à la Renaissance comprise, il servit lui-même de modèle aux auteurs de *Practicae* de la fin du Moyen Age. Ecrite avant la succession des épidémies de peste, qui sévirent à partir de 1348 et qui pesèrent lourdement sur la littérature médicale, cette œuvre nous servira d'exemple privilégié pour suggérer quelques pistes méthodologiques.

KOVAC Zdenko, University of Zabreb
Pathophysiological Aspects of Host-Environment Interactions and Outcomes, Pathocoenosis revisited

Physiological stimuli and etiological factors (biological, chemical, physical) act in human body in a way that generates a unique dose response pattern described as Arndt-Schulz law. That law claims that weak stimuli-slightly accelerate, middle strong stimuli- enhance, strong ones-suppress, and very strong stimuli-paralyze physiological responses. The claims of Arndt-Schulz law keeps true for vast majority of reaction in the health and in the disease. Such nonlinear pattern of biological response comes out of two groups of processes. These are, firstly, a quantity and quality of physiological functions (a functional unit reactivity) of the host, and, secondly, quantity and quality of harmful effect (toxicity of the environmental factor). Both physiological reactivity (the health patterns of response) and pathophysiological reactivity (the disease patterns of reactivity) can be summarized with U-shape curve of harmful effects and □-

shape curve of body/organ/cell functional performance. The overlap of the two curves defines an optimal area with minimal harmfulness and maximal functional capacity.

Grmek's pathocenosis concept should be considered as a cross-talk of etiological factors (quantitative aspects along with the intrinsic nature), host reactivity within given period of life, and epidemiological forces and relations among disease groups. Combinations of these three basic pathobiological elements produce variability, complexity and nonlinearity of clinical disease processes.

A contribution of etiological factors to overall propensity and dynamics of disease in the population stems from their intrinsic nature and adaptability in their interactions with the host. Biological noxae are endowed with superior genomic variability and plasticity, short life span and multiplicity of life forms. Chemical etiological factors in human life come, among others, from environmental influences, overmedicalization and pharmaceutical industries influences. Physical noxae have a growing importance due to traffic kinetic forces and polytrauma, sun exposure, various types of radiation (etc). The overall noxious stimuli effects and outcomes are generated via their primary structural and/or functional damage of the host affected tissue. In principle, primary disintegration of the host structure reduces a compensation capacity of the host, whereas, a functional disorder triggers a wide spectrum of compensatory responses of the host.

Individual physiological response capacity in the given period of life reflects both anabiotic and catabiotic processes. Starting from genomic constitution inherited within the zygote, human body develops a certain degree of functional capacity, which is not constant during the life. Host reactivity during the life may be naturally enlarged by the interactions with the environment. (anabiotic reactions). Anabiotic functional gains are vitally important. The gain of anabiotic processes can be recognized within the various clinical conditions. Host immunization (1) generates a mnemonic protective response (e.g. vaccination, previous contacts with specific antigens), which very often prevents a harsh clinical condition and converts it into a subclinical process. (2) Acute-phase reaction of central nerve system leads to adaptive energy redistribution (e.g. centralization of blood flow, stress reactivity etc). (3) Functional overload induces a hypertrophy of organ and (4) noxious stimuli in small quantity trigger a hormetic effect which is protective against the same noxious stimuli (e.g. ischemic preconditioning). On the other side, host catabiotic reactions reduce a reactive capacity which may be acute and sharp (like, anisomoolality, ischemia, dyselectrolytemia and acid-base dysbalance, etc) and chronic (fibrosis, tissue degeneration, parenchyma loss, aging, dyslipidemia, etc).

Epidemiological pathobiological patterns can be considered as a higher order system. Phenomenology of disease spreading constitutes a multidimensional frame of reference. Within such stratum pathocenosis can be envisioned as unique patterns of outcome. Such patterns are influenced by the genomic constitution of the individual (e.g. consanguinity, polymorphism, inheritance of nosogenic mutations etc), chronobiological functional alterations, and nutritional aspects (e.g. caloric and protein malnutrition, specific deficiencies etc). At the level of population epidemiological forces stem from the conditions of life (a quality of drinking water, sanitation, mobility, etc), life style (sexual promiscuity, addictions, chronic stress, professional overstraining, etc) and health system organization (vaccination enforcement, quarantine measures, etc).

LAMBERT Gérard, LAMBRICHS Louise L., Paris

Comment représenter le concept de pathocénose?

Le concept de pathocénose, créé par Mirko D. Grmek, renouvelle en profondeur, de façon dynamique, l'approche des pathologies tout en soulevant de nombreuses questions qui interrogent divers champs disciplinaires. Comme tout outil conceptuel nouveau, il donne déjà lieu à de multiples interprétations tantôt contradictoires, tantôt complémentaires. Nous tenterons

d'approcher cette complexité en proposant quelques représentations graphiques destinées à susciter la réflexion, le débat, voire de nouvelles directions de recherche.

MORAND Serge, Université Montpellier 2, Montpellier

Infectious Diseases in a Changing Environment

Anthropogenic drivers of the global changes (habitat fragmentation, land-use changes, bioinvasions, and climate change) are affecting biodiversity. Changes in biodiversity at all levels (genetic, populations and communities) will affect ecosystem functioning and particularly host-pathogen interactions with major consequences in health ecology (emergence, re-emergence, evolution of pathogen virulence and pathogen resistance to drugs).

Humans are hosts of many parasites and pathogens due to a complex evolutionary history and particular ecology. However, as humans, thanks to economic development and the progress of medicine, control many infectious diseases, a number of zoonoses are emerging or re-emerging. In a first part, I will review (1) the knowledge on the diversity and origins of parasites and pathogens that affect humans and (2) how the variability of pathogen loads among human populations may have affected human evolution.

In a second part; I will emphasize that biodiversity sciences are indispensable (1) to assess the impact of global changes, (2) to model the evolutionary dynamics of host-pathogen interactions in a changing environment and (3) to develop health ecology by integrating the functions and services of ecosystems.

PROST André, Loisa (Jura) F

Filaria Medinensis, an Ancient Plague on the Verge of Eradication

Guinea worm, the current name for what was known as Medina's thread since the time of Rhazes and Avicenna, is a parasitic roundworm which inhabits connective tissue under the skin of human beings. It was a plague for centuries across the semi-arid regions of the Middle East, from the Caspian Sea to Pakistan, and the disease can still be found across the savannah belt of Africa from Sudan to Senegal.

The life history of the parasite was described by Fedtschenko in 1875: transmission depends on water that collects in spaces that are shallow enough to allow human beings and animals to step into to drink or to draw water, with a water temperature between 20°C and 30°C and that is protected from direct sunlight, a condition that allows the survival of the small crustacean which is the intermediary host. Such favourable conditions existed in most of the urban water reservoirs in the Middle East and Central Asia, and in the cisterns built along the caravan routes. Understanding of the specific pathocenosis led to the disappearance within 30 years - without any medical treatment - of a disease which was responsible for an estimated 48 million cases annually in the mid-twentieth century.

RICAN Stéphane, Université Paris Ouest Nanterre la Défense, Nanterre

Dynamiques territoriales et pathocénose: l'exemple des profils de mortalité par âge en France (1970-2008)

L'analyse des liens réciproques entre dynamiques territoriales et dynamiques sanitaires permet de mieux comprendre les mécanismes sociaux et territoriaux à l'œuvre dans la constitution des inégalités face à la santé et la manière dont se profilent des situations sanitaires variées. Les indicateurs de mortalité, bien qu'imparfaits, constituent des indicateurs robustes de l'état de santé d'une population. L'analyse de l'évolution des structures de mortalité en un lieu passe par la prise en compte de changements intervenus dans différentes composantes d'un lieu (effet de

composition, interactions externes et internes). Au travers de l'exemple de l'évolution différenciée de la mortalité par âge en France, l'objectif est de discuter le rôle de l'organisation d'un espace et des constructions territoriales dans les changements sanitaires.

SALEM Gérard, Université Paris Ouest Nanterre la Défense, Nanterre
Géographie, pathocénose et santé

Si géographie et santé sont étroitement associées depuis Hippocrate, la discipline géographique a eu du mal à construire ses bases théoriques, et à se situer par rapport aux sciences de la santé comme par rapport aux autres sciences sociales, voire à la géographie elle-même. La communication exposera ces avancées, ainsi que l'état du dialogue avec l'histoire de la santé, notamment au travers du concept de pathocénose.

SCHNEIDER William H., Indiana University, Indianapolis
Serial Passage and the Origin of the AIDS Epidemics

In 1989 Mirko Grmek wrote "The History of AIDS", a book that attempted to explain the origin of the disease as well as the course of the epidemic. Scientists are still attempting to understand the former, and this paper will trace some of the main explanations of the origin of AIDS, as well as outline the serial passage theory and the historical evidence that supports it. Scientists now generally agree that HIV emerged in the 1950s and 1960s through cross-species transmission of simian viruses in chimpanzees in Central Africa and sooty mangabeys in West Africa to humans exposed through hunting and preparation of bush meat or from household pets. Based on a limited number of studies, these SIV-like infections in humans have not been found to cause AIDS directly, that is they do not immediately manifest themselves as epidemic forms of HIV-1 and HIV-2. Rather they produce transient infections with low intrinsic pathogenicity that do not seem to spread from person to person at a level sufficient to sustain the emergence of new epidemic HIV's, unless facilitated by some outside agency. The serial passage theory explains the adaptation of simian viruses (e.g., SIVcpz to become HIV-1) through the *serial passage* of SIV infected blood between humans. This paper will show that the timing and extent of new and otherwise benign medical practices in colonial Africa -- injections for prevention and treatment of illness, plus blood transfusions -- provided the new means for this passage and hence the emergence of AIDS in mid-20th century.

TOGNOTTI Eugenia, Università degli Studi di Sassari, Sassari
Transports, Traffic, and Diseases in the Second Half of the XIXth Century: The Perception of a New Vulnerability of Europeans and the International Sanitary Conferences (1851-1892)

After plague, a millennial presence - like malaria and smallpox- in the ecological system of Mediterranean area, a new disease, cholera - which left in 1817 its ancient epidemic corner in South Asia - did produce a new microbial unification in consequence of the development of the steamships (about 1810), the railways (1830), and the construction of the Suez Canal (1869). Its arrival in Europe in the age of the industrial revolution and colonization, had a tremendous impact and revisited atavistic fears that had accompanied the plague. Exotic disease, turned into an European scourge by the innovation of transport, and the speed and intensification of trade, cholera contributed to spread the perception - particularly after the opening of the Suez Canal - that the world was growing at an unprecedented rate and that it was becoming increasingly interconnected and "exposed" to the importation of diseases. The early response of European states to limit the spread of cholera had implied arbitrary and unequal quarantine regulations at various ports that created great burdens on the international trade.

The need to harmonise quarantine and share epidemiological information on disease surveillance led them to promote a multilateral diplomatic forum. After the first International Sanitary Conference, opened in Paris on 23 July 1851, at the initiative of France, were held ten international conferences on health, two of which were dedicated to cholera. In this report, I will focus on the impact of an "exotic" disease such as cholera in Nineteenth Century Europe and on the long and heated controversy on the aetiology of cholera that divided for decades contagionists and anticontagionists, influencing the decisions taken at the International Sanitary Conferences, convened largely under the pressure of the fear of epidemic and the threat represented by the "bacteriological exchange" in the Mecca, after the opening of the Suez Canal (1869).

TOSCANO Anna, University of Milano, Institute and Museum of the History of Science, Florence
L'histoire, la géographie et les remèdes dans la médecine entre le XVIIe et XVIIIe siècle

«*Samagran duhkam ayattam avijnane dvayasrayam/ sukham samagram vijnane vimale ca pratisthitam*» (*Caraka Samhita*, Sutrasthana, XXX, 84).

«Toutes les misères du corps et de l'esprit dépendent de l'ignorance, alors que le bonheur est uniquement fondé sur la connaissance pure». Ce lit dans le *Livre des principes généraux (Sûtrasthâna)* de *Caraka Samhita (La collection de Caraka)*, le traité le plus complète de la médecine ayurvédique, composée entre le VIIIe siècle BC et le Ier siècle AC

Hippocrate a écrit dans *La nature de l'homme*: «quand beaucoup d'hommes sont capturés par une seule maladie dans le même temps, il convient de répartir les cas à ce qui est la plus courante et surtout que nous utilisons principalement: c'est ce que nous respirons».

Nous pouvons trouver dans G. Baglivi un indice de l'idée d'enquêter sur les causes et faire une carte de «tous les états pathologiques présents dans une population à un moment précis et dans l'espace», selon la définition de pathocoenosis inventée par Mirko D. Grmek en 1969.

Baglivi identifie une relation profonde entre l'environnement et la maladie, pendant ses leçons à La Sapienza en 1704 (dediées au commentaire de l'œuvre de Santoro), au cours de laquelle il retrace le système complexe d'actions et les relations entre le monde physique, sujet aux lois du mouvement, et celui des êtres, sujet des mêmes règles aussi identifié par Galilée et ses disciples.

La durée de vie des organismes vivants, ainsi que la santé des corps, est assurée par une vibration permanente vive qui, suivant les lois de la pendule, permet l'accomplissement des fonctions vitales.

L'altération de l'oscillation des particules solides et liquides qui composent les corps vivants est responsable de la maladie et souvent les interférences qui se manifestent en opposition à la fréquence de vibration sont induits par l'environnement dans lequel les corps sont entouré.

L'air, qui agit mécaniquement comme un poids sur les organismes, peuvent, par sa composition différente, de provoquer la maladie: «*Aer romanus sua vitriolico-aluminosa natura noxius est stomacho, et pulmonibus [...] Ob id Romani prae aliis populis pulmonum, et stomachi morbis frequenter, et graviter afficiuntur [...]*»

VUCAK Ivica, University of Zagreb

Emanuel Luxardo and Bruno Curinaldi – Destinies of the South European Doctors in the Century XIX-XX

Emanuel Luxardo and Bruno Curinaldi – The Destinies of the South European Doctors in the Century XIX-XX

The Adriatic Sea can be seen as the border, but through the history its genuine nature was to bridge over the different cultures and nations and to connect people. Emanuel Luxardo (1848 - 1905) and Bruno Curinaldi (1854 - 1944), unlike Baglivi (1668 - 1707), Bošković (1711 - 1787)

and Vlahović (1825 – 1899) coming from the eastern Adriatic coast to Italy, were two prominent physicians that played a significant role in the health institutions in Dalmatia, Herzegovina and Bosnia in the second half of the 19th and the beginning of the 20th century. Their ancestors have come from Italy. Both of them were born in Zadar but their mother-tongue was Italian. In their life time there were no possibility to study medicine anywhere on the eastern side of the Adriatic sea although at the beginning of the XIX century, , under the French administration, the Medical School with doctor degree was established in Zadar but lasted shortly. Luxardo, who came from a wealthy family, graduated in Padua (1872) but worked in Zadar and Dubrovnik and then again in Zadar till retirement. He has proved himself not only as a physician devoted to his patients and an able manager of the Dubrovnik and Zadar hospitals but also as a medical writer. Through his career he kept strong connections with his colleagues in Padua but also with celebrities such as Virchow and Koch in Germany. His father-in-law Miho Klaić (1829- 1896) was one of the most prominent Croatian politicians and leaders of the Croatian national reformation movement in Dalmatia. As representative in the Imperial Council of the Vienna Parliament, Klaić contributed greatly to the building of new hospitals in Zadar (1882), Šibenik (1883), and Dubrovnik (1888). Unlike Luxardo who, although educated in Italian culture and spirit, participated in the Croatian national reformation movement in Dalmatia, Curinaldi has not mastered Croatian language till the end of his life. Graduated in Vienna (1878), he worked in Zadar shortly and was sent to Mostar with the Austrian occupation Army (1879). In the period longer then three decades he contributed significantly to the development of public health in Herzegovina and in the struggle against diseases. He was given the top position in the Ministry of Health in Sarajevo from 1912 till 1918, the last within the Austro-Hungarian Empire. Curinaldi was a genuine European multicultural intellectual. His Italian background, Austro-Hungarian education, and life in the Croatian community in Zadar were influenced by Islamic culture as well. Both, Luxardo end Curinaldi have demonstrated that a physician, in addition to his calling to always strive to help the sick and weak, must never forget his role of educator and active member of the community.

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