Hellenic Department of Balkan Medical Union

International Conference on History of Medicine

"Ancient Greek and Indian Medicine: Achievements and Interactions"

Tuesday 6th of June 2017 Heraklion, Crete, Greece

Program and book of abstracts/Programme et livre des résumés

Venue: Postgraduate Auditorium
Medical School, University of Crete, Heraklion

UNDER THE AUSPICES OF

University of Crete

University Institute of History of Medicine, Claude Bernard University, Lyon, France

Medical School of Crete

Pan-Hellenic Medical Association

Biomedical Research Foundation of the Academy of Athens

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General Information (Informations Générales)

Place and Date of the Conference/(Lieu et Date de la Conférence)

Postgraduate Auditorium

Medical School, University of Crete, Heraklion, Crete, Greece

Guided Visit to the Medical Museum of Crete: Tuesday 6th of June 2017, 10:00-11.00 a.m.

Conference Opening: Tuesday 6th of June 2017, 11:00 a.m.

Opening Ceremony: Tuesday 6th of June 2017, 2:00 p.m.

Closing of the Conference: Tuesday 6th of June 2017, 7:50 p.m.

Registration and Participation (Inscription et Participation)

The registration and participation at the Conference is free of charge and at the end of the Conference a certificate of attendance will be given.

Official languages of the Conference (Langues officielles de la Conférence)

English, French

Contact

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Tuesday 6th of June 2017

10:00-11:00 **Guided Visit in the Medical Museum of Crete located in Medical School, University of Crete, Heraklion, Crete**
M. Tsagaraki-M. Adamaki

11:00-11:50 **Session I**
Chairmen: H. Tekiner, I. Grammatikakis, K. Markatos

1 **The remarkable use of ant mandibles as staples in ancient India and its legacy in Western medicine [27]**
D. Altis (Lecture)
Medical School, National and Kapodistrian University of Athens, Athens, Greece

2 **Cancer in Ancient Greece: early concerns on the emperor of all maladies [4]**
M. Tzanni (Lecture)
Medical School, National and Kapodistrian University of Athens, Athens, Greece

3 **Public health in ancient Greece [6]**
M. Velonaki (Lecture)
Biomedical Research Foundation, Academy of Athens, Athens, Greece

4 **Alexandria Medical School and its contribution to the understanding of cardiovascular system [11]**
I. Armenis[1,2] (Lecture)
[1]Cardiology Department, Onassis Cardiac Surgery Centre, Athens, Greece
[2]Biomedical Research Foundation, Academy of Athens, Athens, Greece

5 **Maternity and social status of the woman in the progressive Minoan Civilization [1]**
I.E. Grammatikakis (Lecture)
3rd Department of Obstetrics and Gynaecology, "Attikon" Hospital, School of Medicine, National and Kapodistrian University of Athens, Greece

11:50-12:35 **Session II**
Chairmen: A. Gikas, C. Lionis, B. Spyropoulos

6 **A comparative study of pulse theories in ancient Hindu and ancient Greek medical tradition [19]**
N. Papavramidou (Lecture)
History of Medicine, School of Medicine, Aristotle University of Thessaloniki, Greece

7 **Les femmes médecins en Grèce et en Inde (Women physicians in Greece and India) [24]**
L. Abid (Lecture)
Service de Chirurgie Viscérale et Oncologique, Hôpital de Bologhine, Alger, Algérie

8 **The impact of ancient philosophy and medicine in modern toxicology science [46]**
A. Tsatsakis (Lecture)
Toxicology Science and Research Centre, Department of Forensic Sciences, Medical School, University of Crete, Heraklion, Greece

12.35- 13.35: Session III
Chairmen : N. Agnatis, I. Mouzas, J. Chevallier

9 ***Ayurveda* in India: Knowledge, Practice and Ideas in Transition [39]**
P. Bala (Lecture)
Department of Criminology, Anthropology and Sociology, Cleveland State University, Ohio, U.S.A.

10 **La reconstruction plastique du nez: de la méthode indienne aux méthodes européennes (Tagliacozzi, Carpue, von Gräfe) (Nasal reconstruction: from the Indian method to European ones) [40]**
J. Chevallier (Lecture)
Institut Universitaire d'Histoire de la Médecine, Université Claude Bernard, Lyon 1, Lyon, France

11 **The medical students' Oath of ancient India and the Hippocratic Oath: a comparative analysis [20]**
H. Tekiner (Lecture)
Department of the History of Pharmacy and Ethics, Erciyes University Faculty of Pharmacy, Kayseri, Turkey

12 **La lèpre dans l'Antiquité Grecque et Indienne (Leprosy in Greek and Indian antiquity) [17]**
M. Karamanou[1,2] (Lecture)
[1]*Institut Universitaire d'Histoire de la Médecine, Université Claude Bernard, Lyon, France*
[2]*Professeur Associée (élue) d'Histoire de la Médecine, Faculté de Médecine, Université de Crète, Héraklion, Grèce*

13.35-14.15: Session IV

Chairmen: O. Zoras, G. Kontakis, C. Stefanadis

13 **Le manuel d'érotologie hindoue *Kama Sutra*, une œuvre maîtresse de la littérature sexologique mondiale (The Hindu erotology manual *Kama Sutra*, a masterpiece of world sex literature) [38]**
G. Androutsos (Lecture)
Fondation pour la Recherche Biomédicale de l'Académie d'Athènes, Athènes, Grèce

14 **La physionomie "bestiale" du criminel (The "bestial" physiognomy of the criminal) [42]**
I. Panousis (Lecture)
Professeur émérite de Criminologie, Université Nationale et Capodistrienne d'Athènes, Athènes, Grèce – Ancien Recteur, Ancien Ministre

14:15-14:30 Opening Ceremony

14:30-15:10 Lunch

15:10-16:00 Session V

Chairmen: E. Castanas, L. Abid, N. Papavramidou

15 **Acupuncture and moxibustion as reflected upon numerous recent patents and patent-applications claiming industrial property rights for relevant contemporary medical uses [37]**
B. Spyropoulos (Lecture)
Technological Education Institute (TEI) of Athens, Department of Biomedical Engineering

16 **Some remarks on Galen's treatise *The Diagnosis and Cure of the Soul's Passions***
T. Valavani (Lecture)
Psychologist, Heraklion, Crete

17 **Yoga – Origins, its place in today's lifestyle and therapeutic qualities [29]**
K. Assimakopoulou-Scondra (Lecture)
Certified Iyengar Yoga Teacher, Brussels, Belgium

18 **The benefits of laughter in our daily life and its practical application**
E. Delidaki [45]
Journalist of Health –Writer, Athens, Greece

16.00-17.05 **Session VI**

Chairmen: M. Tzardi, S. Pirintsos, G. Schoretsanitis

19 **Harmony and Medicine from Antiquity till nowadays [44]**
E. Gialafos (Lecture)
Eginition Hospital, Medical School, National and Kapodistrian University of Athens, Greece

20 **La physiologie fantaisiste des anciens Hindous (The fantastic physiology of ancient Hindus) [36]**
M. Velonaki[1], V.S. Velonaki[2], G. Papastavrou[1], A. Tsaraklis[3], M. Karamanou[4], G. Androutsos[1]

[1]Fondation des Recherches Biomédicales de l'Académie d'Athènes, Grèce
[2]Faculté des Sciences Infirmières, Université Nationale et Capodistrienne d'Athènes, Athènes, Grèce
[3]Département d'Anatomie, Université Nationale et Capodistrienne d'Athènes, Athènes, Grèce
[4]Institut Universitaire d'Histoire de la Médecine, Université Claude Bernard, Lyon, France

21 **Historical aspects of anatomy in ancient India [35]**
G. Schoretsanitis, E. Soultatou (Lecture)
Heraklion University General Hospital

22 **Healing heirlooms. Shark teeth from Bronze Age Gavdos and the liokourna (snake horns) medical folk tradition [43]**
K. Kopaka[1], I.L. Nikolakakis[2] (Lecture)
[1]Department of History and Archaeology, University of Crete, Rethymno, Crete, Greece
[2]Social Anthropology, Goldsmiths College, University of London, London, United Kingdom

23 **Prostitution, hygiene and medicine. A peculiar triple relationship in ancient Greece. [18]**
G. Tsoucalas (Lecture)
History of Medicine, School of Health Sciences, Faculty of Medicine, University of Thessaly, Larissa, Greece

24 **Surgical procedures of the human genital area in India during the ancient period [33]**
K. Gritzalis[1,2] (Lecture)
[1]Biomedical Research Foundation, Academy of Athens, Athens, Greece
[2]Hellenic Center for Marine Research, Anavyssos, Greece

17.05-17.55: Session VII
Chairmen: G. Samonis, E. Stathopoulos, I. Charalampopoulos, G. Scarpas

25 **Otorhinolaryngology in the writings of ancient Greek and Roman physicians and philosophers [13]**
A.M. Axioti (Lecture)
Department of Surgery, General Hospital of Samos "Agios Panteleimon", Samos, Greece

26 **Anatomy in the work of the celebrated Indian physicians Susruta and Charaka [26]**
A. Tsaraklis (Lecture)
Anatomy Department, Medical school, National and Kapodistrian University of Athens, Greece

27 **Influences of Greco-Roman medicine in Ottoman medicine and political thought [21]**
K. Kanakis (Lecture)
Museum of Medicine of Crete, Medical School, University of Crete, Heraklion, Crete

28 **Pioneers of Pediatrics in ancient Greece: Hippocrates of Kos (460–377 BC) and Soranus of Ephesus (98-138) [12]**
M. Geropeppa (Lecture)
Medical School, National and Kapodistrian University of Athens, Athens, Greece

29 **The contribution of Dioscorides (40-90) and Galen (130-201) in the development of pharmacology [14]**
N. Dedes (Lecture)
Medical School, National and Kapodistrian University of Athens, Athens, Greece

17.55- 18.10: Coffee Break

18.10-19.00: Session VIII

Chairmen: A. Tsatsakis, P. Ioannides, A. Tsaraklis, K. Kanakis

30 Obstetrics and Gynaecology in Ancient India [28]
E. Geramani (Lecture)
Private physician, Athens, Greece

31 Les idées aristotéliciennes sur la reproduction humaine (The Aristotelian ideas on human reproduction) [9]
K. Markatos[1], G. Papastavrou[1], M. Velonaki[1], I. Armenis[1], M. Karamanou[2], G. Androutsos[1]
[1]Fondation des Recherches Biomédicales de l'Académie d'Athènes, Grèce
[2]Institut Universitaire d'Histoire de la Médecine, Université Claude Bernard, Lyon, France

32 The Ancient Greek education and spirit promoting medical science [8]
P. D. Ioannides (Lecture)
Dr. Litt., author, poet, historian, Athens, Greece

33 The practice of obstetrics and gynecology in Ancient Greece and Rome [16]
A. Dimoula (Lecture)
Medical School, National and Kapodistrian University of Athens, Athens, Greece
University Institute of History of Medicine, Medical School, Claude Bernard, University, Lyon, France

34 Hippocrate (460-377 av. J.-C.): un grand précurseur en urologie, andrologie et séxologie (Hippocrates (460-377 BC): precursor of urology, andrology and sexology) [3]
G. Papastavrou[1], I. Armenis[1,2], M. Velonaki[1], K. Markatos[3], M. Karamanou[4], G. Androutsos[1]
[1]Fondation pour la Recherche Biomédicale de l'Académie d'Athènes, Athènes, Grèce
[2]Département de Cardiologie, Centre de chirurgie cardiaque Onassis, Athènes, Grèce
[3]Henry Dunant Hôpital, Athènes, Grèce
[4]Institut Universitaire d'Histoire de la Médecine, Université Claude Bernard, Lyon, France

19.00-19.50: Session IX

Chairmen: T. Papaioannou, K. Gritzalis, G. Tsoucalas

35 Anesthesiology in ancient Greece [5]
E. Tzoras (Lecture)
Medical School, National and Kapodistrian University of Athens, Athens, Greece

36 The cardiovascular system in ancient India [30]
G. Papastavrou (Lecture)
Biomedical Research Foundation, Academy of Athens

37 Interactions between the Greek and Indian medical systems: the significance of the unani medical practice in India [23]
K. Markatos (Lecture)
Biomedical Research Foundation of the Academy of Athens, Greece.

38 Assessment of health effects by ancient volcanic eruptions from human remains: potential and prospects [2]
K. Theodorakopoulou (Lecture)
Department of History, Archaeology and Social Anthropology, University of Thessaly, Volos, Greece

39 "Indian" remedies in Dioscorides' *De Materia Medica* [31]
E. Poulakou-Rebelakou[1], M. Karamanou[2], C. Tsiamis[3]
[1]Department of History of Medicine, Medical School, National and Kapodistrian University of Athens, Athens, Greece
[2]University Institute of History of Medicine, Medical School, Claude Bernard, University, Lyon, France
[3]Department of Microbiology, Medical School, National and Kapodistrian University of Athens, Athens, Greece

19:50 Closing of the Conference

Abstracts/Résumés

1. Maternity and social status of the woman in the progressive Minoan Civilization

I.E. Grammatikakis

3rd Department of Obstetrics and Gynaecology, "Attikon" Hospital, School of Medicine, National and Kapodistrian University of Athens, Greece

Minoan Civilization (3000-1150 BC) developed on Bronze Age was the first large civilization of Europe on the island of Crete. Fabulous architectonical constructions like great palaces, wonderful frescoes and pottery as well as jewellery characterize this amazing civilization. According to all existing descriptions from ancient Greek historians and philosophers such as Plato (427-347 BC), Thucydides (460-400 BC) and Strabon (64 BC-24 AD) but also from all the archaeological findings, men and women lived freely and peacefully participating equal in all daily activities, including sports and games. Minoan women enjoyed a higher social status than other women in later civilizations. According to Plato: "in Minoan Crete the important social role of the women is discernible in every sphere". Woman did not only represent the "mother" but also the "active woman" who participated in all city activities. The mystery of life, the fertility, the childbirth and death of humans and nature as well, inspired the Minoans who developed a religion based on female goddesses. Minoans presented the gods very similar to them. The most famous "Snake Goddess" represents the "mother" of the humans and generally of the nature. Many female idols of pregnant women have been found all over the island, as well as frescos presenting fertility and symbols of nature and life. Fertility is a eulogy for the Minoans. Minoan goddess points us the genesis and death not only of humans but also of the universe. Another Cretan goddess Eileithyia was believed that she was facilitating the labor. The etymology of the word "Eileithyia" comes from the Greek verb "ηλσθώ" (I came) or from the ancient Greek word "ἴλαος" (the person who knows how to treat the labor pains). In later times Eileithyia tended to be identified with the Goddesses Hera or Artemis, who were also associated with marriage and childbirth. Eileithyia is mentioned in several Linear B tablets from ancient Crete. Today, the way of life, the social structure and working activities of the women rather discourage than promote motherhood. Four thousand years ago a prototype of a society in which the role of mother was recognized in an admirably way, remains a magnificent example.

2. Assessment of health effects by ancient volcanic eruptions from human remains: potential and prospects

K. Theodorakopoulou[1], K. Kyriakopoulos[2,3], D. Athanassas[3], T.G. Papaioannou[4], E. Theodorakopoulou[5], M. Karamanou[6]

[1]Department of History, Archaeology and Social Anthropology, University of Thessaly, Volos, Greece, [2]Department of Geology and the Geoenvironment, National and Kapodistrian University of Athens, Athens, Greece, [3]National Technical University of Athens (NTUA), Athens, Greece, [4]Biomedical Engineering Unit, 1st Department of Cardiology, Hippokration Hospital, Medical School, National and Kapodistrian University of Athens, Athens, Greece, [5]1st Department of Respiratory Medicine, Sotiria" Hospital for Chest Diseases, Athens, Greece, [6]University Institute of History of Medicine, Medical School, Claude Bernard University, Lyon, France

Volcanic eruptions can result in a wide range of health impacts, arguably more varied than in any other kind of natural disaster. Harmful volcanic particles and toxic gases (sulfates, hydrofluoric acid, hydrochloric acid etc) are typically carried in volcanic ejecta. These volcanic products can cause acute death because of 1) suffocation and respiratory system obstruction, or 2) poisoning due to inhalation of toxic gases. Even if they survive, the victims of volcanic disasters may suffer from irreversible health risks such as respiratory system damage, permanent skin and ocular burns by acid rain, or, more severely, silicosis and fluorosis which lead to irreversible organ failure. During the 1815 eruption of Tambora, Indonesia, 61 000 people died during and in the aftermath of the eruption. The 1902 eruption of Mount Pelee in Martinique resulted in 30,000 deaths, which is the highest number of casualties from volcanic eruptions in 20th century. Human populations that dwell in areas afflicted by volcanic eruptions frequently bear a characteristic chemical signature in their dental and skeletal system. The fluorine poisoning on skeletal remains can be detected by a characteristic encrustation of a porous and fragile osseous tissue on the bones and by outgrowth on the molars. Fluoride can affect the skeletal system when the exposure is long and extreme. Chemical analyses indicate that fluorine levels in affected bone material may be 10 times the normal level. Great volcanic eruptions have always happened. Historical eruptions have been documented in the literature before. For example, Plinius narrates in detail the casualties resulting from the Vesuvius eruption occurred in 79 CE. However, as we delve deeper and deeper into the archaeological time historical documentation of volcanic eruptions becomes scant or inexistent. Assessment of health effects from volcanic eruptions occurred in preliterate

times is even more problematic. To reconstruct health effects from massive volcanic eruptions occurred in those far off times is a rather challenging undertaking. The Minoan eruption of Santorini, which occurred in 1620 BC, comprises an extraordinary volcanic event which shuddered the status quo of the Minoan civilization. Nevertheless, contemporaneous human remains retrieved from archaeological excavations dated to the time of the Minoan eruption have never been analyzed as to the chemical imprint of the eruption on the prehistoric humans. In light of the most recent reconstruction of the magnitude of the Minoan eruption we anticipate that a thorough examination of the available skeletal archives as to the chemical indicators mentioned previously would reveal indispensable information on the type and the degree of health symptoms the Minoan eruption brought about to the Minoan societies.

3. Hippocrate (460-377 av. J.-C.): un grand précurseur en urologie, andrologie et séxologie

G. Papastavrou[1], I. Armenis[1,2], M. Velonaki[1], K. Markatos[3], M. Karamanou[4], G. Androutsos[1]

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Hippocrate a posé la médecine sur les vraies bases scientifiques et symbolise la science et la conscience dans l'art de guérir. Il est le vrai praticien de tous les temps. Dans les 72 livres de la Collection Hippocratique on trouve un grand nombre de textes traitant de la fécondité et la sexualité qui témoignent de la création d'une médecine andrologique scientifique. Quelques exemples indicatifs montrent l'apport d'Hippocrate à la naissance de l'andrologie. Hippocrate nous fournit des renseignements sur l'anatomie et la physiologie des vésicules séminales et des canaux éjaculateurs. Il confond les origines du pénis et de la trachée artère, les situant dans la même veine. Il décrit la création, la position et le rôle des testicules. Il décrit l'irrigation sanguine des organes génitaux aussi que le trajet de la veine qui vascularise aussi bien le bas appareil urinaire que l'appareil génital. Il soutient que le sperme vient de tout l'humide du corps. Il explique le mécanisme de l'érection et de l'éjaculation. Il se réfère aux pollutions nocturnes et indique la congestion chronique de la prostate, la prostatorrhée, la phtisie et les excès sexuels comme facteurs de

stérilité. Il propose une explication pour les conditions déterminant le sexe et mentionne que chez chaque parent il y a deux semences. Il s'occupe aussi des facteurs d'impuissance et de stérilité. Chez les Scythes et chez l'Hippocrate on rencontre la première mention historique de travestisme ("tranvestisme"). La thèse d'Hippocrate d'une double semence chez chaque parent est fausse, bien sûr, mais cette idée d'une dualité des semences chez chaque individu aboutit à des résultats statistiques en harmonie avec les données modernes de la transmission de l'hérédité, chaque sujet possédant en effet un double jeu de chromosomes, maternels et paternels. Par rapport à la formation du fœtus, selon Hippocrate, la semence du mâle entre dans la matrice où elle se mêle à celle de la femme. C'est la chaleur du corps de la mère qui agit sur le mélange en le condensant et en l'épaississant. Le sang menstruel sert à la nourriture du fœtus ce qui explique l'arrêt des règles quand la femme est enceinte ; il se coagule et devient chair. C'est par le cordon ombilical lui que le fœtus respire et se développe. En ce qui concerne l'urologie, Hippocrate a décrit admirablement quatre maladies rénales (lithiase rénale, tuberculose rénale, néphrite chronique, abcès rénal). Il a décrit l'étiologie, l'origine, le tableau clinique et le traitement de la lithiase rénale ainsi que de la lithiase vésicale. L'uroscopie tient une place importante dans les écrits hippocratiques. Les troubles urinaires (incontinence d'effort, strangurie, pollakiurie, hématurie, rétention d'urine) ainsi que les neurovessies dues au traumatisme de la colonne vertébrale sont abordées. Hippocrate avec son génie et avec ses conceptions, très poussées pour son époque, a incontestablement tracé les grandes lignes de l'uro-andrologie.

4. Cancer in Ancient Greece: early concerns on the emperor of all maladies

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In modern societies, cancer is one of the biggest plagues and the second leading cause of death globally. The history of cancer describes the development of a disease which has been rapidly spread during the last centuries, but which was also been known to early human civilizations. The inception and the subsequent course of the disease could improve our understanding of prevention, etiology, pathogenesis and treatment. Although cancer was not

a prevalent disease in antiquity as most people did not live to old age, the disease was recognized and described by ancient Greek medical authors who tried to explain cancer in a rational way. In *Hippocratic Corpus* the terms "karkinos" (cancer) and "karkinoma" were coined, referring to the shape of a crab. The terms "karkinoma apertus" for superficial and "karkinoma occlusus" for deep tumours were used as well, to describe a non-healing swelling or ulceration of a probable malignant origin. Hippocrates (460-377 BC) also introduced the term "scirrhus" to describe hard tumours. Cancer's pathogenesis was explained according to the humoral theory of diseases. According to it, disease was determined as a disturbance affecting the whole person through some imbalance in the four bodily fluids, or humors, of blood, phlegm, yellow bile, and black bile. Health was defined as a balance between the body fluids (eukrasia) and external environment. If this balance was disturbed, the result was disease or dyskrasia. Based mainly on humoral theory, ancient Greek physicians developed the black bile theory of cancer, stating that an excess of black bile in the body could provoke cancer. Centuries later, Galen (130-201) introduced the terms "oncos", meaning "swelling" to describe tumors, leading to the term defining the field of oncology. The treatment of cancer was based on the humoral theory of four bodily fluids and comprised a combination of systemic and topical drugs, surgery and cautery.

5. Anesthesiology in ancient Greece

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Modern anesthesia began in 1846 with the reported use of ether as an anesthetic during surgery. However, the struggle to alleviate pain is not a new one. Throughout history and across civilizations the use of herbal remedies as anesthetics is well documented. Before ether, chloroform and nitrous oxide people were using hemlock, mandrake, dwale (belladonna) as analgesics and sedatives. However anesthesia has its roots in ancient Greece. Plato (427-347 BC) introduced the term "anaesthesia" in philosophy to describe the absence of feelings (want of feelings). Hippocrates (460-377 BC) extended the definition of "anaesthesia" to a loss of both sensation and consciousness and he was the first to use this term in a medical context. Although he

didn't refer to pharmacological anesthesia and its different aspects, he knew that some herbal substances could induce sleep. In addition, in his pharmacological and pharmaceutical work *De Materia Medica* Dioscorides (40-90) was the first to use the word "anaesthesia" in the context of surgery. He described the hypnotic effects of a preparation in wine of mandrake given prior to surgery to avoid pain (pharmacological anaesthesia).Mandrake or Mandragora was a popular agent with many references throughout the centuries. Its particularly curious bifid root resembled the form of man, which undoubtedly added to the mystique surrounding the plant. There is no doubt of the potency of the mandrake root and its use during surgical procedures in antiquity is well documented. Last but not least, it's worth mentioning that many words used in current anaesthetic practice are of Greek origin. For example, morphine is named after Morpheus, son of Hypnos, the mythological polymorphic god of dreams.

6. Public health in ancient Greece

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Public Health is defined as "the art and science of preventing disease, prolonging life and promoting health through the organized efforts of society". The history of public health is a story of the quest of effective methods to understand disease and death and to secure health for the community. In Cretan and Minoan societies, hygiene, climate and environment were recognized as playing a role in disease causation. The Minoans seem to have had some knowledge of public health principles as it is suggested from the clay pipes that provided the upper classes with water and sewage facilities. Attempts to understand and control disease were usually affected by religious and societal beliefs. Priestly medicine flourished in pre-Socratic Greek society. In the Homeric epics Apollo is worshiped as the god of healing until he was replaced by Asclepios, his son, who was a heroic warrior and

'blameless physician'. Hygiene is named after the Greek health goddess Hygieia, daughter of Asclepios and includes rules and advices for the preservation of health, both on the individual and on the public level. Temporal and divine causes of disease began to be separated in the philosophy of ancient Greek culture. A new natural philosophy of medicine emerged among the pre-Socratic schools of thought. Ancient Greece placed emphasis on healthy lifestyle habits in terms of personal hygiene, nutrition, physical activity and public sanitation system. Hippocratic medicine was the first to break with the mystical traditions of health and healing that had so far dominated human societies and expressed that disease was a natural event, not caused by supernatural forces. The prevailing assumption in ancient Greece was that health is a result of an optimal balance between the forces of nature. The Hippocratic tradition concentrated on the patient rather than the disease and emphasized prevention. Preventive medicine included lifestyle that avoided disturbances of the equilibrium. Exercise and rest, nutrition and excretion and other elements of life should be in harmony. Hippocrates (460-377) used a system of dietetics and physical activity to promote well-being and restore health. The Hippocratic tradition also recognized the relationship between health and disease patterns with season and the quality of natural environments. In the Hippocratic text *On Airs, Waters, Places* are analyzed the environmental determinants of disease. Disease was seen as having natural causation, and medical care was valued, with the city-state providing free medical services for the poor and for slaves.

7. Théorie des humeurs et sexualité selon Hippocrate (460-377 av. J.-C.)

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Le premier effort de rationalisation dans la réflexion sur la maladie appartient à Hippocrate (460-377 av. J.-C.). Selon lui, la maladie provient soit de la perturbation de rapports harmonieux entre l'homme et son milieu, soit de la rupture d'un équilibre entre les composantes du corps. Or ce qui peut bouger dans le corps ce sont les liquides, les humeurs. Celles-ci sont au nombre de quatre (le flegme, le sang, la bile jaune, la bile noire), comme les caractéristiques physiques qui les distingueront (le froid, le chaud, le sec et l'humide). Le sperme est un liquide produit par le corps.

Mais quelle est l'humeur qui peut en être l'origine ? Assez vite va s'imposer la conviction que le sperme s'élabore à partir du sang, puisqu'il donne la vie comme lui. Pour Hippocrate, " la semence de l'homme vient de toutes les humeurs de son corps, elle en est la partie la plus importante. Les humeurs entrent dans une espèce de fermentation qui en sépare ce qu'il y a de plus précieux et de plus balsamique, et cette partie, ainsi séparée du reste, est portée par la moelle épinière aux organes génitaux". Pour Galien (129-201), cette humeur n'est que la partie la plus subtile de toutes les autres, elle a ses veines et ses nerfs qui la portent de tout le corps aux testicules. Pour Aristote (384-322 av. J.-C.), "n'est la partie la plus perfectionnée de nos aliments". Pour Pythagore (580-496 av. J.-C.), "n'est la fleur du sang le plus pur". Mais pourquoi le sperme est blanc alors que le sang est rouge? D'autres ont pensé que le passage dans le cerveau opérait ce changement de couleur. D'autres, comme Galien, croient plutôt à la cuisson du sang dans les circuits testiculaires "innombrables comme les vrilles de la vigne". Mais depuis l'Antiquité il existait des critiques de l'idée de sperme féminin, et, en tout cas, beaucoup refusaient à ce liquide produit par les femmes lors de l'excitation sexuelle la même qualité d'élaboration qu'au sperme mâle. D'ailleurs, il est plus aqueux, et les femmes n'ont pas l'équivalent de l'alambic testiculaire qui permettrait une vraie élaboration. Le Grand Larousse Encyclopédique de 1870 attribuera à la chasteté des femmes toutes sortes de maux, mais semble-t-il, plus par l'absence de régénération apportée par la force vitale du sperme que par altération des humeurs féminines trop longuement stockées. Au milieu du XXe siècle des médecins témoigneront: " nous avons vu un grand nombre de jeunes filles chlorotiques, anémiques, atteintes de dysménorrhées, de névralgies, de migraines, de troubles divers de la circulation ou du système nerveux guéries par le mariage". Donc, d'Hippocrate à nos jours, les mêmes imaginaires se manifestent, traduisant les mêmes peurs devant la sexualité.

8. The Ancient Greek education and spirit promoting medical science

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Greece is the country of civilization, education and philosophy, where the traces of culture, arts and sciences have had a great impact on all scientific evolution and the course of all intelligentsia and art until nowadays. The Ancient Greek education and spirit dealt with all problems and aspirations

that modern man and science still tend to address. We all know their profound impact on arts and sciences, including medical science, and their relation to each other. Education and spiritual life play a major role in the mental and spiritual culture, since they have an impact on human activities and affect people's performance and success. Through them an individual becomes capable of achieving a more ideal but true life, which is the goal of all spiritual pursuits and movements of the humanity's evolution and progress. The ancient Greek spirit and spiritual cultivation, by which we are inspired today, provide us also guidance in the medical field. Nevertheless, if someone wishes to achieve something he should comply with the following basic principles of education: a) examining his actions and b) taking responsibility for his actions. We discern the impact that the ancient Greek philosophers, scholars and intellectuals had on human soul throughout centuries. In the Orphic texts we witness the healing of many Argonauts' wounds and diseases. We also witness the marriage of the pharmacist-therapist Medea with Jason and the hidden connection between healing and medicine. Hippocrates (460 -377 BC) said that medicine is an art. A good physician - scientist, who practices the medical science with love, sensitivity, knowledge and a special talent, is an artist of his Science. He manages to provide a positive result to his patient and his social environment. Galen (130-201) named Hippocrates "the eternal Teacher of the Teachers of medicine and the first among the intellectuals". Hippocrates was well - known for his ability to examine systematically and diagnose internal diseases through observation and logic. He is the founder of the rational medicine, combining its professional practice with ethical principles and humanistic values. According to Herschel, the writings of Hippocrates are placed among the classic works of ancient Greeks, i.e. among those of Herodotus, Thucydides, Democritus, Aristotle, thereby equating the contribution of Medical Science to Literature and the contribution of Literature to Medical Science. Plato talked about the harmony and the balance between spirit and body. Aristotle talked about catharsis. For instance, the affections treated by psychotherapy are based on the concept of catharsis as well as of those of harmony and balance. In the masterpiece of human intellectualism, the *Attic Tragedy*, a work carried out by ancient Greek tragic poets such as Aeschylus, Euripides and Sophocles, we find authentic truths which are verified by undeniable scientific psychological interpretations. Sigmund Freud (1856-1939) based all his theory, psychoanalytic technique and psychiatric approach on the "oedipus complex" (found in *Oedipus Rex*, a tragedy written by Sophocles around 441 BC). Furthermore, in the teaching of Socrates we find his perception of psychoanalysis. In his work *Charmides* Socrates supports that "all things come from the soul and the good and the bad of the body".

In Plato's *Symposium*, among the guests of Aristophanes, Agathon and others, we find Eryximachus, who is a physician and speaks about Eros. Thus, we conclude that in the beliefs and philosophical theories of Socrates and Plato there are views similar with the purpose of medical science. In the Greek Education and Olympic Idea we note the importance of the physical exercise and sport, promoting medicine and health.

9. Les idées aristotéliciennes sur la reproduction humaine

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Aristote est né en 384 av. J.-C. à Stagyre, une ancienne colonie ionienne sur la côte orientale de la Chalcidique. En 366, âgé de dix-huit ans, il vint à Athènes et séjourna à l'*Académie*, l'école de Platon, jusqu'à la mort de celui-ci en 322. Il fut le précepteur d'Alexandre le Grand. Il est considéré comme un des plus grands philosophes grecs classiques, et encore un grand biologiste et naturaliste. Son père Nicomaque était le médecin du roi de Macédoine, Amyntas II, père de Philippe et grand-père d'Alexandre le Grand. De son père, Aristote avait pris ses intérêts médicaux. En 335, Aristote revint à Athènes et il y fonda son école, le *Lycée*. En 323, à la mort d'Alexandre, il vint à l'île d'Eubée, où il mourut en 322. Son disciple Théophraste (371-287 av. J. C.) lui succéda à la tête du Lycée. Nul n'a marqué autant que lui la culture occidentale. Il fut le créateur de l'anatomie et de la physiologie comparée. Aussi, c'est lui qui fonda la biologie et la psychologie. Selon Aristote, la femme tient une place tout à fait mineure dans la conception ; pour Aristote, l'embryon est formé par la seule semence de l'homme qui agit sur une matière constituée, quant à elle, par les menstrues de la femme. Aristote récuse complètement la théorie d'Hippocrate (460-377 av. J. C.) qui fait intervenir la semence féminine dans la conception. Cette idée, qui nous parait tellement misogynique, dominait la pensée grecque de cette époque et la pensée mondiale jusque à l'ère moderne. Le mâle, selon Aristote, apporte par son sperme le principe efficient, le principe du mouvement, la forme (c'est-à-dire l'âme), tandis que la femme n'apporte que le corps, la puissance, la matière utile à former l'embryon. Le mâle est donc le moteur, la femelle le mobile. Cette action suppose entre les

deux sexes une certaine proportion, une harmonie, sinon leur union reste inféconde. Aristote examine en détail l'organisation du sexe masculin et l'étude du sperme est de beaucoup la plus longue dans ses écrits. Aristote indique les caractères généraux qui distinguent le mâle de la femelle : le premier possède des testicules, la seconde un utérus. Il examine en détail l'organisation du sexe masculin. Il décrit ensuite les parties sexuelles des femelles. L'organe essentiel est l'utérus qui se trouve à l'intérieur du corps. Au contraire les testicules sont à l'extérieur et en liaison avec les canaux spermatiques. Cette distinction anatomique des systèmes génitaux et également compatible avec les idées aristotéliciennes téléologiques. Selon Aristote, le sperme est formé à partir du sang le plus pur, et l'ultime produit obtenu est fait d'un mélange d'eau et de pneuma ("le souffle") apporté par les artères spermatiques. L'enfant ne produit pas de sperme car la totalité de sa nourriture sert à sa croissance. Aristote affirme que ce serait une sottise de penser comme Hippocrate que le sperme est responsable des ressemblances entre parents et enfants. Il soutient que la force du sperme détermine la ressemblance aux parents. Il soutient qu'un sperme qui "domine complètement la matière maternelle" donnera naissance non seulement à un garçon mais qu'en plus il aura tous les caractères de son père. Alors, les idées aristotéliciennes sur la reproduction étaient tellement comptées à la description et l'étude du sperme pour l'hérédité, sa formation, ses propriétés, la conception et le développement progressif de l'embryon. Aristote est le premier à affirmer que le développement de l'embryon est progressif, débutant à partir de substances amorphes, c'est-à-dire sans forme, ce qui annonce la théorie de l'épigenèse. Les conceptions aristotéliciennes par rapport à l'urologie et la reproduction constituent, plus ou moins modifiées, les bases de toute la théorie antique concernant l'appareil urogénital et la reproduction humaine, jusqu'à ce que Galien, qui s'en est largement inspiré, en propose une autre qui, elle, durera jusqu'au 17^{e} siècle.

10. La grande circulation du sang selon Galien (129-201)

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On attribue à Galien entre 250 et 500 ouvrages traitant de tous les sujets médicaux. Sa contribution aux connaissances anatomiques et physiologiques du système cardiovasculaire est considérable. Galien décrit

bien la forme pyramidale ou conique du cœur, sa position dans le thorax. Le péricarde entourant le cœur, représente un rempart protecteur. Il décrit la position des gros vaisseaux à la base du cœur, la veine artérieuse (artère pulmonaire), l'aorte, les artères veineuses (veines pulmonaires). Selon Galien, les vaisseaux contiennent du sang. Artères et veines servent à la nutrition des organes. Ainsi, "les artères et les veines participent à tous les genres d'aliments; les premières demandent un sang peu abondant, ténu et vaporeux, tandis que les veines réclament un pneuma peu abondant, mais épais et nébuleux". La théorie des "pneumas" est pour Galien essentielle. Il voyait trois "pneumas", l'un venant du foie (le pneuma naturel), l'autre venant du cœur (le pneuma vital), l'autre venant du cerveau (le pneuma animal). Il accordait au foie un rôle prééminent, rôle hérité des Babyloniens, et il en faisait l'organe nourricier et distributeur. Il décrit ainsi la grande circulation du sang : "Le cœur …se dilate lorsqu' il veut attirer quelques substances utiles, se replie sur lui-même pendant qu'il doit jouir des substances attirées, se contracte lorsqu'il se hâte d'expulser le résidu de ces substances". Selon sa conception circulatoire l'estomac et les intestins recevant les aliments sont à l'origine du système qui, par les vaisseaux gastriques et intestinaux, fait monter ces aliments au foie en se groupant dans la veine porte. Le foie élabore le sang veineux, qui, par les veines sus-hépatiques, s'évacue dans un court tronc cave qui se subdivise aussitôt en deux branches : l'une, descendante, va porter le sang veineux à la moitié inférieure du corps, l'autre, ascendante, va porter le sang à la moitié supérieure. La circulation cœur-poumon et poumon-cœur retient longuement Galien. La nutrition du poumon est en partie assurée par la veine artérieuse. Mais cette nutrition n'est pas suffisante parce que la paroi de la veine artérieuse est trop épaisse, et c'est finalement l'artère veineuse (la veine pulmonaire) qui s'acquitte au mieux, grâce à sa tunique mince, de la nutrition du poumon. Ainsi, Galien reconnaît deux systèmes circulatoires et, entre eux, des anastomoses de deux types: d'une part, il reprend les synanastomoses vasculaires d'Erasistrate, d'autre part, il invente les anastomoses transeptales de la cloison. L'œuvre physiologique de Galien, malgré ses erreurs et ses curiosités, nous apparaît encore monumentale. La circulation, avec le foie organe distributeur, le cœur émanation des vaisseaux, des communications aberrantes, a marqué de son empreinte quinze siècles de l'histoire de la médecine.

11. Alexandria Medical School and its contribution to the understanding of cardiovascular system

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Alexandria was established in 331 BC by Alexander the Great (356-323 BC). After his death, Alexandria became the capital of the kingdom of Ptolemy. The founder of this dynasty, Ptolemy I (c. 367-283/2 BC), the so-called Soter, a great supporter of science and culture, tried to transform Alexandria into a cultural center by attracting well-known scientists and philosophers of that time. Medicine was one of the fields that greatly benefited from Ptolemy's policy; two pioneers of medicine, Herophilus (340-300 BC) and Erasistratus (304-245 BC), conducted their leading scientific work in Alexandria. Both had a great contribution to the better understanding of cardiovascular anatomy and physiology, which will be summarized here. Herophilus of Chalcedon was born in Chalcedon of Asia Minor in the second half of the 4th century BC (around 340 BC). Herophilus was a great anatomist and the first to describe many anatomic structures of human body. He is considered the father of neuroanatomy. He introduced the terms "torcular Herophili" and "calamus scriptorius" to describe these loci of the central nervous system. His contribution to the study of cardiovascular system is remarkable. He differentiated arteries from veins based on the different thickness of their wall; arterial wall is six times thicker than venous. He related peripheral pulse to arterial wall movements and the latter to heart beats, without realizing the causative relationship between heart motion and pulse. In his treatise *Manual of pulses* he studied extensively the pulse characteristics (intensity and rhythm) and used pulse frequency as a measure of body temperature. For this purpose he invented a special water clock (clepsydra).Moreover, Herophilus described pulmonary artery, which he named arterial vein, carotid artery, subclavian vein, splanchnic vessels and the vessels of the genital apparatus. Erasistratus of Ceos (Kea) was also a great anatomist, but his main contribution to medicine was his studies on physiology. His contribution to the clarification of cardiovascular anatomy

and physiology is significant. He is the first to conceptualize the mechanic function of heart as a pump that contracts and dilates on its own power. He also suggests that arterial pulse is the consequence of the passive motion of arteries due to the active pumping of pneuma from the left ventricle. According to Erasistratus, pneuma derives from the air through the lungs and the venous arteries (pulmonary arteries). The aortic valve prevents regurgitation of pneuma from the aorta to the heart. On the other hand, blood is produced in the liver and transferred to the right heart chambers through the inferior vena cava. Blood is pumped through the right atrium and the right ventricle to the arterial vein (pulmonary artery), and from there through supposed smaller veins to the whole body, to deliver nutrients. Erasistratus described tricuspid and pulmonary valves for the first time, accurately supposing their role in prevention of blood regurgitation during the dilation of the heart. As a conclusion, both Herophilus and Erasistratus were pioneers in the description of cardiovascular anatomy and physiology. As many historians of medicine have pointed out, it is not exaggeration to claim that Erasistratus came quite close to the modern perception of blood circulation described centuries later by William Harvey (1578-1657). However, Erasistratus main drawbacks are his misunderstanding of the anatomy and function of the pulmonary arterial circulation after the level of pulmonary artery and his attachment to the traditional notion that arteries do not contain blood but only pneuma.

12. Pioneers of Pediatrics in ancient Greece: Hippocrates of Kos (460–377 BC) and Soranus of Ephesus (98-138)

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Even though medicine has significantly evolved during the last decades, it is admitted that the foundations of medicine were put by physicians in ancient Greece. Two great figures of medicine, Hippocrates of Kos (460-377 BC) and Soranus of Ephesus (98-138) managed to stand out in Pediatrics during that era. Hippocrates was born in the island of Kos in 460 BC. He worked on all fields of medicine and he documented his work at the *Hippocratic Corpus*. Although none of the books of the *Corpus* is solely dedicated to

Pediatrics, there are several descriptions of neonatal and pediatric diseases. In the field of dermatology, Hippocrates did not only describe dermatologic diseases of infants and children, but also suggested various remedies that are still used by modern pharmacology. His contribution to pediatric virology is considered valuable, since he described in detail viral infections such as parotitis (mumps) and he was the first to correlate it to orchitis. He also referred to the transmission, the pathophysiology and the therapy of those diseases. In orthodontics, Hippocrates recommended practices for cleaning children's teeth and he proposed the use of golden linen, similar to the modern braces. He studied epilepsy, heredity of diseases and he attempted to correlate environmental factors to children's health. Soranus of Ephesus lived six centuries after Hippocrates. He was more interested in gynecology and neonatal health. In his work, Soranus gave specific instructions on hygiene, care and nutrition of infants and he described neonatal diseases as well. Soranus first recommended the application of olive oil in the eyes of infants to clear away any birth residue; he pointed out the importance of breast milk and instructed nursing mothers to follow specific dietetic guidelines in order to preserve their health. Soranus described specific criteria to determine the health of infants, which are very similar to the APGAR score, designed by Virginia Apgar (1909-1974) in the last century, proving thus the importance and impact of his work. Hippocrates' and Soranus' scientific consistency, innovation and methods are valuable till nowadays.

13. Otorhinolaryngology in the writings of ancient Greek and Roman physicians and philosophers

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In ancient Greece and Rome, physicians and philosophers contribute in the evolution of anatomy and physiology of human body trying also to provide therapeutical options. Hippocrates (460-377 BC) separate superstition and magic from medicine and developed a practice of observation and experimentation to determine the natural causes of disease. In several passages of *Corpus Hippocraticum*, diseases of the ear, nose and throat were mentioned and appropriate treatments were proposed. Hippocrates was the first to describe the tympanic membrane, reported cases of acute otitis, noted

the association of headache and otorrhea and described the sponge method for nasal polypectomy which was used till 19th century. Aristotle (384-322 BC), even though he was a philosopher, he laid the foundations of comparative anatomy and embryology. He described the cochlea as part of inner ear and pointed out its relation with the brain. Furthermore, he recognized the cough reflex by explaining and assuming the connection between ears and lungs. Centuries later, the Roman politician and philosopher Marcus Cicero (106-43 BC) wrote about the nasal physiology. In the same period, the encyclopaedist Aulus Cornelius Celsus (25 BC- c. 50 AD), known for his extant medical work *De Medicina*, mentioned the treatment of injuries of external ear, the removal of an insect from the internal ear and even tonsillectomy using a finger nail. Galen (130-201) recognized the importance of draining an infected ear and it seems that he performed tracheotomy. He was the first who applied the term "labyrinth" for the inner ear. He described the five pairs of cranial nerves, noted the auditory nerve, distinguished the six pairs of intralaryngeal muscles and defined three laryngeal cartilages. The above mentioned forerunners of otorhinolaryngology have been proven correct in most of their assumptions and discoveries, despite the anatomical and technological handicap of their time.

14. The contribution of Dioscorides (40-90) and Galen (130-201) in the development of pharmacology

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In 5th Century BC, Hippocrates (460-377 BC) first assumed a scientific approach towards medicine and pharmacology through the introduction of humoural theory. In accordance with this theory, he tried to cure diseases using more than 250 drugs from animal, herbal or mineral origin. The teachings of Hippocrates were adopted ever since and presented the base of medicine. This was also the starting point of Dioscorides (40-90), who authored a five-book pharmacologic encyclopedia, more commonly known as *De Materia Medica* . In his work, Dioscorides, alphabetically classified more than 800 items, trying also to note their effects in the human body, resulting in more than 2.000 formulas and recipes. The impact of Dioscoride's work was great and his book was a reference during medieval period translated also into Arabic and later into modern European languages, the first of which was that

of the physician and naturalist Pietro Andrea Mattioli (1501-1577). Mattioli's translations became popular and remained in use until the end 18th century. Roughly a hundred years after Dioscorides, another Greek physician is at the forefront of medicine, Galen (130-201). Galen was a highly celebrated physician whose works have had an extensive influence on the different branches of medical science, dominating medical thought until the 16th century. Insisting in polypharmacy, in which more than one medicine has to be administrated in order to have a therapeutical effect, Galen was mixing several agents in order to optimize their absorption, hence the term "galenic" used till nowadays for the drugs' formulation. One of his contributions in pharmacology is the preparation of theriac, an all cure remedy consisting of viper's flesh, opium, honey, wine, cinnamon, and more than 70 ingredients. In case of theriac, Galen conducted one of the first randomized control trails proofing its therapeutic and clinical effectiveness. Theriac remained a popular drug mentioned also in 1874 *French Codex*.

15. Some remarks on Galen's treatise *The Diagnosis and Cure of the Soul's Passions*

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Galen (130-201) said: "the best doctor is also a philosopher", and in this sense he is more current that ever. As a young man he exposes himself, albeit adopting an eclectic stance, to the basic philosophical systems current in his era. His life and work substantiate his teachings, and illustrate the human potential for cultural and spiritual growth on condition that we are free from excesses. In his treatise he discusses human passions as expressions of an irrational power in man and postulates that philosophy rather than medicine is appropriate for treating the soul. Excessive vehemence of loving or hating anything becomes a major obstacle to inner happiness (eudaimonia). Blinded by selfishness, we are incapable of laying judgment on ourselves. Because we are imperfect and strive for perfection, we need only remind ourselves of the Apollonian dictum "know thyself". This knowledge can be obtained through the "eyes" of the other, even of those who castigate us. Necessary condition for this knowledge, Galen insists, is our supervision by old men who are known for their inculpable life and reason. Galen also suggests that we should forgo glory and wealth so that we reap honest opinions about ourselves from our compatriots. "It is shameful to strive for years to become a good doctor, using any means available, (…) but despair of the long prospect

of being a true man. (…) One should strive for life to perfect one's character. (…) One is what one does and one does what one is." In his treatise Galen also talks about rage and anger which in their extreme are madness. We must train the irascible power of passions to obey us; else it will beguile us to unnecessary pleasures of the body. Among the passions of the soul Galen includes pugnacity, ambition, hunger for power, avarice, greed and envy. Also, he acknowledges that his father's moral teachings benefited him the most, for example to be calm before unexpected life events, to shun glory and honors, to hold only the truth in esteem, to oppose to those who find fault with him those who praise him. Furthermore, that he should not grieve for the loss of money, unless he is left with little to take care of his bodily health, and if with more then give the rest to charity.

16. The practice of obstetrics and gynecology in Ancient Greece and Rome

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In ancient Greece the most popular, respected, and influential medical work was the *Hippocratic Corpus*, a vast body of medical writings from the Greek work of the fifth and fourth centuries B.C. covering also gynaecological and obstetrical topics such as intercourse and conception, fetal development and birth, female physiology and menstruation, lochia (postpartum discharges) and postpartum complications, tests for pregnancy and contraceptive measures. Several instruments were also described namely hooks, compressive forceps and destructive instruments restricted to stillborn babies. However, during that period vaginal examinations and deliveries were, mainly, conducted by midwives. In the following centuries, several women achieve fame as midwives and physicians such as Olympias of Thebes (1st century AD) expert on herbs especially abortifacients and contraceptives and Aspasia (2nd century AD) who developed an important technique for rotating the foetus in a breech position. However, in the 2nd century AD, Soranus of Ephesus, a Greek –born physician who received his medical training in Alexandria and practiced in Rome became a leading authority of obstetrics and gynaecology. His work on gynaecology is considered as the most important treatise on the subject. Soranus described menstruation, conception, and amenorrhea, developed

the vaginal speculum and dealt with several gynaecological procedures. In obstetrics, he introduced the birth chair and in cases of transverse fetal position, he performed the manoeuvre which was later called “turning the foot”. His contribution in neonatology is also of a great importance as it provided the earliest newborn assessment. Another key figure of obstetrics and gynaecology was Cleopatra Metrodora, a highly educated woman physician, who according to some was a contemporary to Soranus of Ephesus. Hippocrates, Soranus of Ephesus, Cleopatra Metrodora, and midwives such as Aspasia set the foundations of obstetrics and gynecology and became a source of inspiration for gynecologists throughout centuries.

17. La lèpre dans l’Antiquité Grecque et Indienne

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La lèpre est une maladie infectieuse chronique due à *Mycobactérium leprae*, découvert en 1873 par le norvégien Armauer *Hansen (1841-1912).* Le mode de sa transmission reste encore mal connu mais la voie de transmission la plus probable reste la voie aérienne supérieure (sécrétions nasales). La maladie s’attaque aux tissus cutanés et aux nerfs périphériques et elle se classifie en forme tuberculoïde polaire (TT), forme lépromateuse polaire (LL) et formes intermédiaires ou borderline (borderline tuberculoïde, borderline lépromateuse et borderline borderline). *La lèpre* est connue en Grèce dès la plus haute *antiquité*. Les Grecs, attribuaient *la maladie, selon les mythes,* à la vengeance des dieux. Les médecins de l’*antiquité* la regardaient comme produite par l’altération des quatre humeurs, et surtout par l’atrabile. Cependant, la maladie présentait des difficultés d’interprétation et elle était confondue avec d’autres dermatoses érythémato-squameuses (psoriasis, eczéma, etc.). Pourtant un médecin éminent grec Arétée de Cappadoce (Ier siècle ap. J.-C.), avait donné de la lèpre au sens strict, une description magistrale en mentionnant les lépromes, le faciès léonin et les mutilations dans son ouvrage *Traité des signes, des causes et de la cure des maladies aiguës et chroniques.* Il appelait la maladie éléphantiasis, (éléphantiasis græcorum) car il crut trouver quelque ressemblance entre les téguments des individus qui étaient affectés et la peau rude et âpre de l’éléphant. En décrivant la lèpre, il fut le premier à mentionner le mode de sa transmission. Du point de vue thérapeutique, les anciens grecs préconisaient le traitement hygiénique comme le plus efficace et ils conseillaient

les bains sulfureux, les purgations, les saignées, les régimes alimentaires, la thériaque et l'hellébore blanc (*Veratrum album*) et le noir très efficaces contre la maladie. En Inde, la lèpre était aussi connue dès l'antiquité et selon certains auteurs, Inde était un des premiers foyers du fléau. Dans le livre de Sushuta, le *Sushruta Samhita* (600 avant J.-C), on observe une analyse sur les symptômes, le traitement et l'étiologie de la lèpre. Les signes cliniques y sont décrits dans deux chapitres différents. Dans celui concernant les affections du système nerveux, la maladie Vat-Rakta ou Vat-Shonita est caractérisée par l'hyperesthésie, les fourmillements, l'anesthésie, la suppression des sueurs dans les territoires insensibles, les ulcérations spontanées et la formation de "griffes", symptômes pathognomoniques de la lèpre nerveuse anesthésique actuelle. Dans le chapitre traitant des maladies de la peau, la Kushtha (affection cutanée) est divisée en deux groupes: la Malia (majeure) Kushtha et la Kshudra (mineure). Dans l'une, les symptômes principaux étaient : l'anesthésie el la déformation des extrémités dans l'autre prédominait l'ulcération de la peau au niveau des lésions, la mutilation des extrémités et l'effondrement du nez. En plus, Sushruta rapportait que l'huile d'*Hydnocarpus wightiana* (huile de chaulmoogra) était administrée par voie buccale et en application externe dans le traitement de la lèpre. L'huile de chaulmoogra, ayant une activité bactériostatique était commercialisée jusqu'au début des années 1950 et sous forme de pommade, gélule et huile pour des injections intramusculaires.

18. Prostitution, hygiene and medicine. A peculiar triple relationship in ancient Greece

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Prostitution in ancient Greece symbolized both the lust and the idea of sexual freedom, sometimes necessary for women's emancipation, while at the same time it could signal the relationship of female potency to control men. Those women called "etaires" (Greek: εταίρες), could easily recognize changes in body shape, were aware of personal hygiene and cosmetics, and could observe any pathological change. Their treatises had a huge impact among the male population. There is a great possibility that many men wrote with a pseudonym of a prostitute, having the hope, or the certainty that their scientific views, poems, and prose would be read by the general public. Pornography in ancient Greece has been a source of medical information in antiquity. The prostitutes wrote a series of works on love and sexual intercourse to be read

by men and at the same time they had composed various scientific treatises on hygiene and medicine. A broad spectrum of interests like gynaecology, obstetrics, dermatology, aphrodisiac infectious, cosmetics, ethics, sexual behaviour, love and abortion potions, hydrotherapy and anatomy were covered by "etaires". Some of them were recognized physicians, while others were simply experienced lovers capable of animal and hen sodomy. Philaenis of Samos (4th century BC), wrote an erotic handbook *About pleasure and beauty* (Greek: *Περί ευχαρίστησης και κάλλους*). Aristagora (ca 4th-2nd century BC) an "etaira" from ancient Corinth, was an expert in cosmetics, cognizant of aphrodisiac potions. Elephantis (or Elephantini) (1st century AD), an ancient Greek poet and physician and possibly an "etaira", apparently renowned in the classical world as the author of a notorious sex manual named *Sexual intercourse Schemes* (Greek: *Περί σχημάτων συνουσιαστικών*), while she was the author of a handbook *On Cosmetics* and a work *On Abortion* (*Περί εκτρωτικών*). Lais, (1st/2nd century AD) was an ancient Greek slave from Sicily, who firstly became a famous prostitute in ancient Corinth, and then a capable physician and midwife known for her disagreements with Elephantis. The ancient Greek prostitutes were well aware of the human body anatomy, while with their writings they contributed to the evolution of sexual medicine, dermatology, hygiene and cosmetics.

19. A comparative study of pulse theories in ancient Hindu and ancient Greek medical tradition

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Studying sphygmology in ancient medical history is not an easy task, especially when one has to compare its use within two different medical traditions: the ancient Hindu and the ancient Greek one. Descriptions of the sphygmological practice may be found in numerous ancient Greek authors, with Galen being the most meticulous and detailed one. On the other hand, *Ayurveda* and *Samhita* treatises are invaluable sources of information on the use of pulse in ancient India. An effort is made to present and compare the definitions of pulse, its types, and their general characteristics, their differentiating features and their use in diagnosis and prognosis of diseases in ancient Greek and Hindu medical traditions. Surprisingly, we have concluded that the similarities are astonishingly numerous, notwithstanding that ancient Hindu tradition is highly spiritual, while the ancient Greek medical texts tend to be more practical.

20. The Medical Students' Oath of Ancient India and the Hippocratic Oath: A Comparative Analysis

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The *Charaka Samhita*, together with the *Sushruta Samhita*, is one of the foundational texts on ancient Indian medicine. Dating back to before the second century CE, the *Charaka Samhita* consists of 120 *chapters* in eight books written in a poetic style. The third book of this compendium, entitled *Vimana Sthana*, includes chapters dealing with the special effects of drugs, pathology, dietetics, the training of a physician, and medical ethics. In terms of medical ethics, the Medical Students' Oath of Initiation (MSOI) given in this book deserves a special remark. While this oath is based on traditional teachings of Ayurvedic medicine and contains concepts that had pervaded ancient Indian ethical thoughts, it still reveals significant parallels with the Hippocratic Oath (HO) (e.g., having religious covenants, paying respect to teachers, not harming patients or committing adultery). With regard to the religious covenants, for example, the MSOI refers to the requirements for students "to take the oath in the presence of sacred fire, Brahmanas, and physicians" (13-1), the instructions concerning "not eating meat (13-2)," and the prayer "for the welfare of all creatures beginning with the cows and Brahmanas (13-4)." However, it differs from the HO by asking physicians to deny treatment to those who hate the king or who are hated by the public as well as to refuse providing medical services to patients when their illness is considered incurable. Several claims have been made historically regarding the origins of these oaths and their influences. For instance, in accordance with Edelstein's monograph (1943) on the origin of the HO, Menon and Haberman (1970) found it conceivable that "the HO was influenced by Ancient Indian teachings and practices via the Pythagorean School." Jonsen (2000) also claimed that the MSOI surpasses the HO in both eloquence and moral idealism. Considering our knowledge of the similarities and differences between these oaths that flourished as indigenous products of their respective cultures has remained limited, this communication seeks to present a comparative analysis between them. It also aims to discuss their possible influence in modern times in light of today's bioethical principles such as justice, truth-telling, and nonmaleficence.

21. Influences of Greco-Roman medicine in Ottoman medicine and political thought

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Ottoman Empire extended over vast territories where different cultural traditions existed. Ottoman culture, especially during the early modern period, was not a monolithic one and cultural variety was one of its main characteristics. Ottoman medicine, likewise Ottoman culture, was the outcome of combining different medical traditions like Ancient Greek, Roman, Arab-Muslim, Byzantine, Central Asian, Anatolian, Indian and Seljukid. The blending and merging of these medical influences determined ottoman medicine until the 19th century and gave its unique medical identity. Of course, Byzantine and pre-ottoman Muslim medical traditions was the base upon which ottoman medicine was built. The common denominator of these traditions was the heavy influence of the findings, acceptances and principles of Greco-Roman medicine and especially the teachings of Hippocrates and Galen. Ottoman medical system was composed by folk medicine, religious or "Prophetic" medicine and humoral medicine, but it was the last one that was solely practiced in ottoman hospitals and enjoyed the status of "high-learned medicine". The impact and influence of Greco-Roman medicine in the Ottoman Empire went further than medicine itself. Medical knowledge was considered as a branch of high learning and was esteemed even for Ottomans who pursued nonmedical professions. Medical knowledge was part of the intellectual milieu of the learned Ottomans. This is obvious in works of political thought. Several Ottoman scholars used medical knowledge, especially humourism, as a "tool" for political and social analysis. Furthermore, by using the humoralist system they suggested doctrines for "healing" the sickness of the ottoman society of their time.

22. The parallel routes of Greek and Hindu Ophthalmology

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Sushruta or Suśruta (6th c. BC) is considered as the founder of Hindu medicine in general and often is compared to Hippocrates (460-377 BC)

due to their achievements in medicine and their medical treatises which were used as paradigms for the later physicians. But Sushruta according our point of view should be better compared to Alcmeon of Croton (570-500 BC) not only because they lived about the same, but also because both of them were pioneers in medicine, even if today there are not preserved the original medical writings of Alcmeon of Croton. Nevertheless, in *Uttara Sthana* in chapters 1 to 19, Sushruta dealt with the eye. In these chapters are presented ocular anatomy, several ocular diseases as well as their medical and surgical treatment. He underlined that there were 76 varieties of ocular disease from which 51 should be treated by surgery. Sushruta performed cataract surgery by the couching method, while he also introduced in ocular surgery scarification, excision, incision and venesection. Comparing these chapters concerning ophthalmology with the treatises on ophthalmology in ancient Greek medical literature we can assume that both medical civilizations had common routes and similar approaches in the surgical treatment of ocular diseases and especially cataract. In the past many scholars believed that Hindu ophthalmology influenced ancient Greek, while others pointed that Hindu ophthalmology derived from Greek one. But according our point of view this is a pseudo. Both medical civilizations had similar approaches to these diseases and developed many similar achievements simultaneous mainly in ocular surgery due to the fact that Greek and Hindu physicians had similar intellectual and practical background.

23. Interactions between the Greek and Indian medical systems: the significance of the unani medical practice in India

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Unani Medicine or “Unani-tibb” is a well-recognized medical system of Indian Medicine with an autonomic gnosiologic basis, principles, practicing and therapeutic methods. It was based on the grecoarabic medicine and teachings of Hippocrates (460-377 BC), Galen (130-201) and Arab physicians. Its main principle is the maintenance of equilibrium among the various aspects of the body, made up of four elements, different temperaments, simple and compound organs, and four humours. It is very likely that Greek medicine first

arrived in India with the campaign of Alexander the Great in Asia (334-323 BC). During the Byzantine era, travel, trade and cultural contacts with India grew significantly, especially with the emergence of the Nestorian sect (5th century AD), the condemnation and exile, as well as the subsequent immigrant wave moving eastward which created the conditions for a translational activity, including medical texts. Islam brought new medical practices in India especially after the 11th century invasions of Gujirat, especially around Lahore, Agra, Lucknow and Delhi. These practices were known as "yunani" (or unani) as an Indian translation of the word 'Ionian'. Unani medicine derives heavily from Galenic medicine as interpreted in *The Canon of Medicine* of Ibn Sina (Avicena), and it continues to flourish in India today. It is currently practiced by hakims (physicians) and it is strongly related to rural areas and the Islamic faith. Unani medicine texts are mainly written in Persian and Arabic with a certain number of Sanskrit texts. It is usually popular among Islamic populations, its body of knowledge is based on the four humours and it has an orientation towards treatment in hospitals. It had a significant interaction through the ages with Ayurvedic medicine, but there are also significant differences especially concerning the population of reference (Ayurvedic medicine mainly concerns Hindu populations) and the principles of practice. The basic principles of Unani medicine are elements (arkan), temperament (mizaj), humors (akhlat), spirit (ruh) and nature (tabiat). The mixing of humors creates health (eukrasia) and the disorder disease (disbalance). The 4 humors (blood, phlegm, bile, black bile) are responsible for health maintenance and disease if they are balanced or not. Diseases are classified according to the humor which causes the disorder and the basic principles of the Hippocratic corpus of medicine remain unchanged. Unani medicine had a period of decline, as all traditional Indian medicine, during the time of colonialism when western medicine prevailed in India. In the 20th century, with the rise of the Indian independence movement, indigenous traditions received active support from national politicians and public. The main supporter and practitioner of Unani medicine was Hakim Ajmal Khan (1868-1927) who contributed to the creation of the Ayurvedic and Unani Tibbia College in Delhi. In 1946, the Ministry of Health concluded that there should be support for research and applications in both the Ayurvedic and Unani medicine and decided the establishment of educational institutions for teaching them. Nevertheless, beside the creation in 1969 of Central Council for Research in Indian Medicine and Homoeopathy on various disciplines of its systems, government funding has been minimal in the modern era. Most hakims are required to have a basic training in the basic principles of modern medicine. Today, In India we may find today more than 100 Unini Tibb Hospitals, free to all patients without discrimination, 900 Unani dispensaries and almost 30.000 registered practitioners.

24. Les femmes médecins en Grèce et en Inde

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La pratique médicale existe depuis toujours, bien que l'on ait peu de traces des connaissances médicales des hommes de la Préhistoire. La médecine moderne s'est implantée au 19ème siècle mais le savoir actuel plonge ses racines au-delà du 19ème siècle. Un bond de plus 20 siècles en arrière est nécessaire. Il nous ramène à la Grèce où Hippocrate (460-377) codifiait un savoir hérité de l'Inde et de l'Egypte et le complétait par ses propres observations. En effet, la médecine occidentale trouve son véritable point de départ dans la Grèce antique. C'est à ce moment qu'ont été développés les concepts rationnels qui devaient définir la pensée et la pratique médicale en Europe, pendant plus de deux mille ans. Le plus influent médecin de cette époque est Hippocrate. Dans l'Inde ancienne, l'histoire de la médecine et l'art de guérir était l'apanage des brahmanes. Les deux ouvrages fondamentaux de la médecine indienne sont la *Samhitâ* de Charaka et l'*Ayurveda* de Suçruta. Charaka et Suçruta sont les deux "Hippocrate" de l'Inde. Mais qu'elle est la place de la femme dans la pratique médicale dans ces deux civilisations millénaires? Dans la Grèce antique, comme c'était le cas pour beaucoup de métiers, la médecine est une affaire de famille. S'il existait quelques femmes guérisseuses, les accoucheuses et infirmières étaient bien plus nombreuses. La plus ancienne sage-femme mentionnée chez les Grecs était Agnodice (IVe siècle avant J.-C.). Phanostraté (IVe siècle avant J.-C.) était médecin et sage-femme. Les médecins hommes ne connaissaient et n'écrivaient sur les maladies des femmes qu'au travers des descriptions relatées par les sages-femmes.

Après la création de l'Etat grec moderne, on voit apparaitre les premiers mouvements d'émancipation des femmes grecques pour l'égalité sociale, ainsi que la création des premières écoles pour filles. Parmi les premières femmes médecins en Grèce, on peut citer Marie Kalopothakes (1859-1941) qui obtint son diplôme en 1894, les sœurs Panagiotatou et à partir de 1900 plusieurs autres femmes comme Anthi Vassiliadou, Anna Kastigras, Eleni Kosmidou et Amalia Koutsouri-Vourekas (1912-1986) plus connue sous le nom de Lady Fleming, épouse du Pr. Alexander Flemming (1881-1955) découvreur de la pénicilline. En Inde comme en Grèce, c'est les dais (matrones) qui dispensent les soins de santé aux femmes. Ce n'est qu'après 1880 que l'entrée des femmes dans la profession médicale a eu lieu. En 1885, le "Fond de la Comtesse de Dufferin" a été créé pour fournir une éducation médicale et

offrir des bourses aux femmes indiennes. Si les premières femmes médecins sont des européennes comme Mary Scharlieb (1845-1930) ou Ida Sophia Scudder (1870-1960), très vite des femmes autochtones s'impliquèrent dans la pratique médicale comme Anandibai Gopalrao Joshi (1865-1887) diplômée aux Etats-Unis en 1886, Kadambani Ganguly 1861-1923) diplômée en 1886 du Calcutta Medical College et bien d'autres comme Muthulakshmi Reddy (1886-1968), Mary Poonem Lukose (1886-1976) et Sivaramakrishna Iyer Padmavati (1919-) qui fut première femme cardiologue de l'Inde. Si aujourd'hui la gente féminine est majoritaire dans les facultés de médecine aussi bien de Grèce que de l'inde, sur le terrain professionnel, la femme est encore minoritaire. Une analyse des causes de cette situation sera présentée.

25. Un survol sur l'antique médecine indienne

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Nous sommes assez bien renseignés sur l'antique médecine indienne car celle-ci s'est perpétuée sans altérations jusqu'à notre époque et les textes anciens n'ont point cessé d'être recopiés. Un fait essentiel a cependant entravé le développement de la science médicale aux Indes : c'est l'interdiction de toucher aux cadavres. Néanmoins, l'expérimentation empirique des drogues aboutit à une thérapeutique très complète. A l'époque védique (des hymnes sanscrits, ou *Vedas*), et qui s'étend jusqu'environ 2.500 ans avant J. C., la médecine est principalement magique, ainsi qu'en témoignent les textes de l'*Atharva-Veda*. Mais il existait dès ce temps une caste de médecins-praticiens séparée de la caste sacerdotale. Pendant la période brahmanique qui embrasse à peu près le millénaire précédant l'ère chrétienne, on étudie l'anatomie, mais l'observation de la nature est, en quelque sorte, subordonnée à des idées religieuses. Enfin, aux époques bouddhistes et arabes, postérieures à l'ère chrétienne, la médecine indienne subit quelques influences extérieures qui n'altèrent pas profondément la tradition ancienne. Le texte sanscrit le plus important sur la médecine est dû à Susruta, dont on ne sait pas à quelle époque il vécut, mais qui est incontestablement fort ancien. Cet ouvrage comprend six parties : *Sutra*

St'hana (Traité des opérations chirurgicales), *Nidana St'hana (Art du Diagnostic)*, *Sarita St'hana (Anatomie)*, *Tchikitsa St'hana (Thérapeutique interne)*, *Kalpa St'hana (Empoisonnements et antidotes)* et enfin *Uttara St'hana (Affection des yeux, des oreilles, etc.)*. L'ouvrage de Charaka est peut-être antérieur. Enfin, plus tard ont été écrits le *Vagbhata*, le *Madhavanidana* (*Pathologie*) et le *Cacradatta (Pharmacologie)*. La vie trouve sa source dans l'action simultanée du vent, du feu, et de l'eau, mis en mouvement par un "souffle" proche du "pneuma" grec. Outre les cinq éléments de base, le corps humain est constitué de sept substances vivantes, le sang, le chyle, la chair, la graisse, l'os, la moelle et le sperme. La bonne santé repose sur leur équilibre, l'excès ou l'insuffisance de l'un provoquant l'affection. Tout l'art du médecin consiste alors à rétablir l'harmonie antérieure. A certaines époques, on autorise la dissection des cadavres en Inde : on l'effectue après macération du corps dans l'eau pendant cinq jours. Elle n'entraîne cependant pas une évolution dans les connaissances anatomiques. On confond les vaisseaux et les nerfs et on explique le fonctionnement des organes davantage par la théorie que par leur disposition. La conscience siège dans le cœur, animé du même «souffle» qui fait circuler le sang et provoque le pouls. Associé au feu, ce "souffle" fait cuire les aliments dans l'estomac et préside à toutes les activités du corps. On constate la fragilité de cette énergie vitale car il existe sur le corps cent sept points particuliers où elle est menacée. Avant de formuler son diagnostic, le médecin procède à l'interrogatoire du patient, il prête attention à sa voix, aux anomalies de ses mouvements, il écoute le bruit de sa respiration. Il examine son aspect général, sa peau, sa langue, il étudie l'odeur de sa sueur et de ses urines qu'il peut goûter pour en apprécier les éventuelles saveurs sucrées. Quant aux caractéristiques du pouls, leur étude ne sera conseillée que par des textes postérieurs au VIII^{e} siècle, sans doute sous l'influence des techniques chinoises. Comme dans toutes les protomédecines, les médicaments proviennent des trois règnes : le traité le plus complet emprunte 64 produit au règne minéral, 57 au règne animal et on utilise plus de 400 plantes mises à profit en fonction des six saveurs fondamentales qu'on veut en extraire : le doux, l'acide, le salé, le piquant, l'amer et l'astringent. On les choisit selon les éléments vitaux perturbés par la maladie, grâce à une classification dont l'objectif n'est pas descriptif ou botanique, mais thérapeutique. La cohérence du visible avec l'invisible crée un réseau de "correspondances" dont le médecin compétent doit tenir compte, tant il est vrai que le désir de l'homme d'établir une cohésion du monde qui l'entoure avec le "cosmos" se révèle universel. On notera que la pharmacopée "ayurvedique" a été régulièrement rénovée depuis 15 siècles, en même temps qu'on découvre de nouvelles espèces végétales. Aujourd'hui encore, on l'enseigne, on rédige des traités,

et de nombreux vendeurs d'herbes médicinales en font l'éloge sur les états des marchés indiens. L'antique médecine indienne étudie minutieusement l'embryologie et attache la plus grande importance à l'hygiène de la femme enceinte ; elle reconnaît l'hérédité des caractères physiques et moraux, autant que des tares pathologiques. Les maladies peuvent avoir des causes morales aussi bien que physiques ; le médecin doit s'efforcer de les déterminer afin d'établir un diagnostic précis. Trois éléments sont essentiels à la vie : la respiration, la bile et la lymphe. Leurs rapports normaux ou anormaux déterminent la santé ou la maladie. La symptomatologie est une des branches les plus importantes de la médecine indienne. La fièvre – qui a pour cause occulte la colère de Siva – peut avoir sept origines, dont les unes sont internes et les autres externes. Les dates critiques sont les 7^{e}, 10^{e} et 12^{e} jours. La fièvre tierce et la fièvre quarte font l'objet de descriptions minutieuses. La phtisie est appelée "maladie royale". Un malade qui présente à la fois les trois symptômes graves, toux, hémoptysie et fièvre n'a point chance de guérir. L'usage de goûter les urines permet de déceler le diabète. Parmi les remèdes externes, saignées – avec indications très précises – et ventouses sont en honneur. La balnéothérapie est aussi employée; les clystères sont administrés soit avec de l'eau, soit avec de l'huile. On se sert de pommades, d'onguents. Parmi les remèdes internes, on utilise purgatifs et vomitifs. La diététique est rigoureuse dans la plus part des affections. La chirurgie des Hindous a été très hardie. Les textes font mention d'opérations aussi délicates que celles de la cataracte. Il faut dire que l'arsenal chirurgical était très perfectionné, que les précautions énumérées sont minutieuses. Elles déterminent la forme, la dimension des incisions selon les différentes interventions, la manière de vider les abcès, de laver les plaies avec des infusions astringentes, de les panser à l'aide de mèches imbibées de matières grasses. Les chirurgiens Hindous ont pratiqué l'ablation des amygdales, la cure des fistules anales, la ligature des artères dans les plaies profondes. Ils savaient extraire le fœtus dans les présentations de l'épaule, réduire les luxations, traiter les fractures, amputer dans certains cas fort judicieusement énumérés, extraire les calculs vésicaux par la taille périnéale. La rhinoplastie (l'amputation du nez était un châtiment infligé pour la punition de l'adultère), l'art des greffes, ont été portés à un point de perfection merveilleux. L'hygiène n'est pas moins développée : les ablutions sont prescrites par le *Manava-dharma-çastra* (*lois de Manou, recueil des lois religieuses, morales et sociales*) qui en règle les détails. La femme durant les périodes menstruelles et pendant la grossesse est astreinte à des pratiques rigoureuses ; les excréments et les eaux ayant servi aux ablutions sont immédiatement évacués hors des habitations ; les dents doivent être brossées à l'aide de bâtonnets ; les massages sont pratiqués avec des

onguents. L'hygiène alimentaire n'est pas déterminée avec moins rigueur. Un petit nombre de substances animales et végétales sont permises, le reste étant sévèrement écarté. L'ivrognerie est punie de la marque au front, et la femme qui boit des liqueurs fortes peut être répudiée. Comme la médecine hébraïque, la médecine indienne ancienne, à la fois sacerdotale et pratique, repose sur la nécessité de purifier le corps en attendant l'heure de la mort qui, pour le juste, n'est point une punition, un malheur, mais au contraire le commencement d'une vie nouvelle.

26. Anatomy in the work of celebrated Indian physicians Susruta and Charaka

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As birthplace to one of the oldest civilizations, India is rich in the history of medical sciences and particularly in anatomy. The developmental history of ancient India can be divided into three periods: the pre Vedic (3000-1500), the Vedic (1500–500 BC), the post-Vedic(600 BC– 1000 AD) .During the first period, medicine was practised by priests and was a mixture of magic, rites and rituals. Archaeological excavations from this era, in the areas where the Indus Valley Civilization flourished, show cave paintings of animals on which the critical areas are marked. That can be regarded as evidence of the first ever lessons in surface anatomy. During the Vedic period, Srila Vyasadeva rendered the four *Vedas - Rig, Yajur, Sama* and *Atharva Vedas* to his disciples. The *Rigveda* mentions the heart, lungs, stomach and kidneys. The *Atharva Veda* lists medicinal herbs, plants and mentions the structure of man. It describes the heart as a lotus fruit with nine gates which is an accurate depiction by modern anatomical knowledge. The *Atharva Veda* also refers to Dhamanis which are ducts with thick walls equivalent to arteries and Siras, ducts with thin walls equivalent to veins and even finer ducts referred to as Snavas similar to capillaries. The *Vedas* were followed by other writings, such as the *Brahmanas* which can be considered as guide books for the *Vedas* that came next. *Aranyakas* and then *Upanishads* which followed *Brahmana*s. One such Upanishad called *Garbha Upanishad* (1400 BC) describes the development

of the embryo in detail. The post-upanishadic period from 800 B.C. to 1000 A.D. is considered the the golden age of Indian medicine. Ayurveda, (the science of life) evolved during this period in which two great proponents of this science practised medicine in India, Susruta and Charaka. The first written evidence of Ayurveda is in the Sanskrit writings of *Charaka samhita* and *Susruta samhita*. These two manuscripts form the main pillars of ayurveda and both devote a complete section (Sarira sthana) to the subject of anatomy. In these sections gross anatomy, but also elements of embryology and histology are present. During this period the ancient Indians practised the dissection of human cadavers, as is mentioned in the *Susruta Samhita*. Since the Hindu anatomists were forbidden by religious beliefs to cut the body, they used kusa grass to peel off the layers of the skin and study the interiors. They divided the body into six parts. The four extremities, the neck and the trunk. The emphasis in Hindu anatomy was given first to the bones and then to the muscles, ligaments and last joints. Ancient Indian anatomists belonging to the Atreya-Charaka school counted 360 bones and those of Susruta's school noted 300 bones in the human body. They included teeth, nails, cartilages, the bony prominences and protuberances as separate bones, a fact that accounts for the large number they found. Although Charaka's knowledge of the muscles was very rudimentary, he reports the number of muscles of the body as 500. Susruta not only gives the total number of muscles, but their distribution as well. He mentioned that of the 500 muscles, 400 belong in the four extremities, 66 in the trunk and 34 in the region above the clavicles. With reference to the heart and the vessels, Charaka does not add much to what is given in *Atharva Veda* but gives the number of dhamanis as 200 and that of siras as 700. As far as the nervous system is concerned, very little is mentioned about the brain in Indian medical literature. Bhela, author of *Bhela samhita* recognised the brain. Susruta was aware of at least four pairs of cranial nerves, situated on either side of the larynx, which when injured produced loss or change of voice. One pair behind the ears which when cut produced deafness, a pair inside the nose, destruction of which produced loss of smell and a pair of below the eyes which if cut, would produce blindness. Charaka and Susruta also described the viscera and the lungs but both refer to the lungs in singular. Both Charaka and Susruta were acquainted with the stomach and the intestine. Susruta describes the interior of the rectum as well as the urinary bladder and the uterus. Medicine was being taught during this time in the university towns of Nalanda, Taxila and Varanasi (Benares). The Muslim invasion led to the decline of the importance of Indian medicine. However it managed to influence the Greeks, and the Arabs in the west and the Chinese in the east.

27. The remarkable use of ant mandibles as staples in ancient India and its legacy in Western medicine

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As it is claimed, Prajapathi, the "Lords of the Creations" passed on the knowledge of Ayuerveda to the Divine twin surgeons (Aswinikumaras). According to the *Rig Veda* the Divine twin surgeons could restore the youth, cure the blindness, the sterility and as it was believed they also could restore the dead to life. It was said that they have passed their knowledge to Indra and from Indra, mankind received the Divine Wisdom. The science of surgery was first thought by Divodasa, king of Kashi surnamed Dhanvantari who founded Indian medicine. He had six disciples among which Susruta (7th century BC) who wrote the treatise of *Susruta Samhita* dealing mainly with surgery. Surgery was associated primarily with war and for a long period was a special distinct and independent branch of medicine. In *Susruta Samhita* we may find a detailed description of surgical instruments, operations and post-operative wound care. Susruta was emphasizing on theoretical and anatomical knowledge, practical training, as well as to the special characteristics of a surgeon in terms of confidence, speed, sharpness of instruments and no sweating or trembling of hands. In medical practice attention was given to "dharma", a code of ethics and right behavior in the society. However, an interesting practice was documented in Indian medical texts of Susruta and Charaka (4th century BC). Large black ants were used as staples in the margin of the wounds. Moreover, ants were considered as medicine for several diseases and had a vital place in nutrition in Ancient India. The ant mandible method passed through translations to Greek, then Arab and finally Latin and was cited in the work of the distinguished Italian surgeon and anatomist Girolamo Fabrizi d'Acquapendente (1537-1619). It's worth mentioning that the practice of ants as staples was known in Greece during the 19th century and it was referred in the *Memoirs* of Yannis Makriyannis (1797-1864), a key figure of the Greek War of Independence.

28. Obstetrics and Gynaecology in Ancient India

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According to Indian philosophy reproduction was not just a physiological function but also a social obligation of the couple as well as a religious ritual to be observed during grhasthasrama. Ayurveda did not contain any section on obstetrics or gynaecology. Obstetrics was mainly handled by midwives and the distinguished physicians Susruta (7th century BC) and Charaka (4th century BC) discuss the subjects at some length in their samhitas (medical texts). Charaka refers to gynaecology and to the normal pregnancy and delivery while Susruta discuss the specific aspects of obstetrics. Both tried to liberate medicine from the stranglehold of animism, leaving it alone with regard of the diseases which can be explained by tridosa theory. Anatomy of genitalia and reproductive organs were described by Susruta. He also mentioned puberty, menstruation-disorders of menstruation, hygiene of menstrual period and disorders of function (amenorrhea, dysmenorrhea). Charaka described in his texts the medical aspects of gynaecology: normal pregnancy, stages of labour, abortion, miscarriage and puerperium. Furthermore in ancient Indian texts the diseases of female organs were described in detail and a conservative or surgical approach was mentioned. We have to notice that delivery was not a branch of physicians' duty but was handled by midwives. The dietary habits for each month of pregnancy, the psychological condition of the pregnant woman and the use of certain herbs or "magical" potions are important for a normal labour. The period of puerperium was mentioned in a separate chapter and was analyzed in detail. We also have an extensive description of the care of newborn, the breastfeeding and the specific nutritional diet (pathya) of the mother. It seems that the knowledge of ancient Indians in obstetrics and gynaecology provide a baseline for the progression of this medical specialty.

29. Yoga – Origins, its place in today's lifestyle and therapeutic qualities

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The history and origins of Yoga are full of uncertainty due to the oral transmission of sacred knowledge and the secretive nature of the teachings. It used to be passed on orally from master to student, not in groups of people. Some of the early writings were written on leaves, which subsequently got destroyed and or lost. The word "yoga" comes from the Sanskrit root yuj, which means "to join" or "to yoke". From the word itself one can derive the goal of yoga, to join body mind and spirit (and to eventually become one with God). The word "yoga" was first mentioned in the oldest sacred texts, the *Vedas*, approximately 1500 BC (according to different sources, the dates vary between 5000-1500 BC). The *Vedas* are a collection of texts containing songs, mantras and rituals to be used by Brahmans (Vedic priests). Yoga was slowly refined and developed by the Brahmans and Rishis (mystic seers) who documented their practices and beliefs in the Upanishads, a huge work containing over 200 scriptures. It was a patchwork of various ideas, beliefs and techniques that often conflicted and contradicted each other. Then came Patanjali's Yoga-Sutras, the first systematic presentation of yoga, which consolidated the existing knowledge, (approximately 200 BC – 500 AD). In the late 1800s and early 1900s, yoga masters began to travel to the West, attracting attention and followers. During the late 20th century, there was a yoga boom, with yoga expanding across the world and eventually even becoming a fashionable activity. However, the first recorded contact between yoga and western thought occurred during the 4th century BC. The Greeks had heard much about the Indian yogis, whom they called "gymnosophists" (naked philosophers) and greatly admired their depth of wisdom. Alexander the Great (356 -323 BC) had studied philosophy with his teacher Aristotle (384-322 BC), and was interested in learning from the yogis. The Greek historian Plutarch (45-120) tells the story from Alexander's encounter with a yogi in India. Yoga, as we encounter it today, comes from many different interpretations of this basic concept of balance between body and mind. Depending on the school you visit, the type of yoga is different. Some types of yoga are more focused on the physical aspect and endurance (Ashtanga), some others on the flow of postures (Vinyasa), some on the correct alignment and duration of the asanas (Iyengar), and some on breathing and meditation. However, no matter which school, the goal to attain harmony of the body

and mind is central to their practice and commitment to yoga. Since the 1960s, our postmodern era has become increasingly stressful and full of an unprecedented anxiety. With an emphasis on calming the mind, yoga found a fertile ground in the West at the dawn of the postmodern age. For many people yoga has become a practice to reduce stress and empty the mind from the clutter it carries in the day-to-day life. Some others may be attracted to yoga in order to attain a healthy body. Effectively, with yoga, one can learn to breathe better, and can improve flexibility and strength. Personally, years ago, following a car accident, I experienced chronic pain in the area of my cervical spine. This obliged me to visit a physiotherapist regularly, since if I didn't, I would be blocked to a point I could not move out of bed and would need anti-inflammatory medication for a few days. Since discovering yoga and becoming a regular practitioner, I did not return to the physiotherapist nor had to ever take medication again. Gradually I became more and more involved with yoga, until some years ago I followed Iyengar yoga training and became a certified teacher. Following my experience I believe that yoga can help both the body and mind, and with an experienced and well-trained teacher, one can be guided in doing positions, which can alleviate pain and work on specific areas of the body.

30. The cardiovascular system in ancient India

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Indian documentation of description of heart dates back to 600 BC. Heart was described as the seat of consciousness and as a prime mover of "prana" or impervious energy. Heart being the centre of the system, transmits energy through different "nadis" or channels. Liver was considered as the transmitter of purified blood coming to it through portal "dhamani" or artery from intestine and through hepatic "sira" or veins to the heart which then transmitted the same blood to all parts of body. Ayurveda (knowledge of life) is an ancient medical science that has been originated in the Indian subcontinent and has been practiced since the time of Buddha (500 BC). The examination of the pulse is an integral part of Ayurvedic medicine. Heart rate was counted per "pal" with every 2.5 pal making a minute. Moreover, different pulse rates were described for different age groups in the Ayurveda. In Ayurveda literature, the heart and the different vessels attached to it, have been described to transport the following four vital

entities: 1) “Rasa” (often wrongly translated as “Chyle”), the nutrient fluid that nourishes rest of the tissues; 2) “Rakta,” the red fraction that is very essential for life; 3) “Ojas,” a white fraction, the functions of which are closely associated with immunity; and 4) “Prana,” a fraction that is derived through the act of respiration. It is described that heart and the 10 prominent blood vessels attached to it form the basis of cardiovascular system, which is responsible for the distribution of nutrients to all parts of the body. “Vyana Vayu” continuously ejects the blood out of the heart and distributes it all over the body. The forceful ejection of Rasa from the heart and the role of Vyana Vayu in making its ejection possible further hint at a preliminary understanding of the heart as a pumping organ. There are documented three different kinds of blood vessels: “Sirah” (vessels that carry the contents without pulsating), “Dhamanyah” (vessels that pulsate), and “Srotamsi” (vessels from which fluids move out). This explanation is important because it assumes the presence of three distinct segments in the vascular tree: the pulsating (arteries) segment, the exchange (capillaries) segment, and the transporting (veins) segment. Despite some gross inadequacies pertaining to the anatomical details of the heart and the blood vessels, it can be said that the ancient Ayurveda masters had acquired considerable understanding related to the blood circulation in the human body.

31. “Indian” remedies in Dioscorides’ *De Materia Medica*

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The aim of the study is to present the remedies of Indian origin in the famous work *De Materia Medica* of Dioscorides. The work *Materia Medica* was written between 50-70 AD by Pedanius Dioscorides (c.40-90), the famous Greek physician of the Roman army. In his monumental work of five-volumes, he describes approximately 600 plants and substances of animal and mineral origin. In our study, the data are derived from Leipzig edition of *Materia Medica* (1829). It is very important to mention that during the Ancient times, the term “India” signifying any area in the Indian Ocean. But, according to the data of the historical geography it seems that for many writers the term corresponds to the land of India. According to our research,

we have detected five (5) reports of "Indian" remedies: i) Αγάλλοχο (lat. Agallochum) *Excoeria agallocha.* The root of Agallochum had antipyretic and analgesic effect. ii) Νάσκαφθον (lat. Nascaphthum) as a substance for fumigation in gynecological disorders (vaginitis, vulvovaginitis). iii) Πιπέρι (lat. Pipere), pepper as antidote in poisonous animals' bites. iv) Ζιγγίβερ (*Zingiber officinale*, ginger) with anti-inflammatory action. v) Ινδικός κάλαμος (lat. Calamo aromatico), *Canna Indica* as a substance of an anti-cough remedy with terebinthina. Also, the extract of the Indian reed (lat. Indicum) it was proposed as excellent anti-inflammatory treatment. The knowledge of the Indian remedies will survive for centuries in the European Pharmacopoeia through the reputation of Dioscorides' *Materia Medica*. The findings reinforce the historical concept of the Greco-Indian interactions between the two cultures in medicine and phytopharmacology.

32. The development of Public health in Ancient India

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According to WHO, Public Health is the art and science of preventing disease, prolonging life and promoting health through the organized efforts of society. In the ancient world the pursuit of cleanliness of the environment and the body had both spiritual and material basis. The concern for proper public hygiene and environmental health maintenance was deeply rooted in the ancient Indian culture and traditions. Archeological excavations at Mohenjo-Daro and Harappa in the Indus Valley revealed cities of over 2000 years old with advanced knowledge of sanitation, water supply system and engineering. Those ancient cities were planned with large roads paved with baked bricks, covered sewer drains, private and public baths and aqueducts. The pre-vedic period of the Indian civilization was generally characterized from a highly developed sense of health and sanitation. The Vedic period of the Indian civilization is considered to be a creative period of great intellectual activity which laid the foundations of Indian culture. Works of this period conclude that all forms of life, human, animals and plants, are closely interlinked and any disturbance in one is supposed to create

imbalance to others. Ayurveda, which means the science of life, is a medical system that evolved and flourished in ancient India. Ayurveda is a holistic way of life according to which life is in constant state of flux. In this dynamic process a continuous adjustment with the environment is necessary for health and well being. Susruta (7th century BC) and Charaka (4th century BC), the authors of *Sushruta samhita* and *Charaka samhita* respectively, stated that disease results from the failure of an organism to adapt to certain conditions, either due to some innate reasons or due to the effect of an environmental factor. According to the Ayurvedic masters, the man should be kept meticulously clean, have scrupulous mouth hygiene, follow a variant diet, exercise and meditate. Some authors believe that these rules stress the leading role of prevention in ayurvedic practice. However, other researchers suggest that these instructions should be considered more as a philosophy of life as well as a personal and collective moral code. Ancient writers have recognized the importance of pure water in the maintenance of good health and have discovered ways to achieve water purification. They were aware of the potential role of water as a vehicle for water borne diseases. From Vedic texts we can assume that plague has been related with places with a lot of dead rats and that the role of mosquitoes in the transmission of malaria was known in ancient India.

33. Surgical procedures of the human genital area in India during the ancient period

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During the ancient times the Hindu physicians were characterized by a relatively thorough scientific knowledge of the human body anatomy. The ancient Indian physician Sushruta or Suśruta (600 BC), in his treatise titled: *The Compendium of Suśruta* (Suśruta-samhita), did not include circumcision in his surgical descriptions. On the contrary he cited the excision of malignant ulcers and necrotic lesions of the penis. The latter condition resulting from a disease known as “upadansá” that might have been a very virulent ancient form of two typical sexually transmitted infectious diseases: gonorrhea and syphilis. Based on one of the descriptions concerning the treatment of “upadansá”, which is referred to in the context of a simple surgery of the penis by the Suśruta, the following medical instructions are mentioned. The treatment of tridoshajia upadansá should be the same as in the case of malignant ulcer. The putrid portion of the penis should be removed and the remaining portion should be

cauterized by the use of the jambvoshtha instrument at the incised part. In another form of upadansá, the male's organ vein system was opened in order to eliminate the contaminated blood in a severe case of the disorder. Concerning the latter and especially in less severe cases, the medicinal leeches which is one of several species available (probably the Hirudo orientalis) were applied to the penis; Suśruta described 12 types of leeches (6 poisonous and 6 non-poisonous). More rudimentary data have also been derived by the Suśruta and Charaka, regarding the urological surgery. Among them the most remarkable is the use of catheters for the urethral dilatation and for the cure of abdominal swelling due to the urinary retention. Another amazing for that era surgery was also referred to. That operation consisted of treating scrotal tumors caused by urinary infiltration. In that case the physician resorted to perforating the scrotal raphe on the left side and introduced a perforated tube to withdraw the by-product of the metabolism, urine. Hereupon, the surgeon implemented a ligature at the perforation site. In conclusion, the primitive surgery of the genital area and especially the urological one was referred to at the works of Charaka and Suśruta. The catheters, instrumenta tubulata multiplicitur adhibenda, were in a wide use for cases of retention of urine with swelling of the abdomen. According to some researchers, some of those operating procedures practiced by the ancient Greek medico-philosophers were introduced by them into that area of Asia during its conquest by Alexander the Great (356-323).

34. La crémation des veuves ("sati") et la position des femmes dans l'art d'aimer chez les anciens Hindous

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La coutume sexuelle la plus atroce vient du pays de la résignation, de l'Inde. La "sati", la crémation des veuves (littéralement : "la femme vertueuse") n'est que l'union de l'épouse à son mari poussée dans ses dernières conséquences. La femme unie à un homme doit rester éternellement avec lui, dans l'Au-delà comme en ce monde, sans interruption. L'affliction, le culte

du mort, la renonciation à un remariage ne suffisent pas. Une femme vraiment attachée à son époux ne peut se séparer de lui corporellement. S'il est appelé par la mort dans un autre monde, elle doit suivre le même chemin et mêler ses cendres aux siennes, le jour même où le mari est incinéré. Cette conception a des accents lyriques et héroïques à la fois : elle professe que le mystère du mariage, que la fidélité conjugale sont plus fortes que la crainte de la mort. Mais le geste perd un peu de sa générosité si l'on réfléchit qu'il est la conséquence de la servitude sexuelle inouïe dans laquelle l'homme et la société ont jeté la femme. Il fait une impression encore plus fâcheuse si l'on connaît les circonstances dans lesquelles cette coutume s'est développée et s'est conservée jusqu'à une époque récente. La crémation des veuves remonte au moins au IIe millénaire av. J.- C. Elle n'a jamais été répandue dans l'Inde toute entière. Elle vient des tribus de langue aryenne ; la population du Sud ne s'en est jamais vraiment accommodée. On est tenté de rattacher cette coutume aux sacrifices humains religieux, mais les plus anciens livres sacrés de l'Inde, les "Védas" s'en écartent déjà. Ils la tolèrent tout au plus et recommandent d'une manière pressante de sauver les femmes de la mort par le feu. Si une femme se couche sur le bûcher à côté du cadavre de son époux et qu'à la dernière minute un autre homme lui saisisse la main, elle doit le reconnaître pour son second mari et retourner au monde des vivants. D'ailleurs cet excellent conseil ne semble pas avoir été souvent suivi ; il fallait que l'homme s'échappât aussi vite que la femme et donc que tous deux eussent prémédité cette singulière cérémonie de mariage sur un bûcher ;ce qui était possible, car, malgré leur claustration, les épouses indoues n'étaient pas toujours des modèles de fidélité. Si les prescriptions religieuses ne sont pas responsables de la crémation des veuves, les prêtres portent une lourde responsabilité, eux qui attisaient la flamme du bûcher pour y faire cuire leur soupe. Les brahmanes exhortaient surtout les femmes riches à se faire brûler avec leur mari, en principe pour récolter l'héritage de la veuve. L'autodafé des femmes pauvres, où ils n'avaient rien à gagner, leur importait manifestement beaucoup moins, il n'était pas nécessaire que les pauvres fussent aussi vertueuses que les riches. Le prêtre ne se souciait pas de celles qui vivaient en polyandrie. L'incinération des veuves restait ainsi un privilège des castes supérieures. Quand régnait chez elles la polygamie (polygynie), il arrivait que plusieurs femmes se fissent brûler simultanément lors du décès de leur seigneur et maître, dans l'attente de renaître un jour avec lui. De tels cas s'observaient encore aux 19e et 20e siècles, même après que, malgré les violentes protestations de la caste sacerdotale, le vice-roi britannique, lord William Bentinck, eût interdit en 1829 l'incinération des veuves. Au milieu de ces pratiques absurdes, associées à des captations d'héritages, un fait apparaît déjà comme un trait de lumière : on limita du moins le "Sati" aux adultes.

Dans les castes supérieures il était de bon ton que l'on cherchât pour des fillettes en bas âge un époux de même âge. Les filles étaient considérées dans l'Indeμ à toute époque, comme une charge peu enviable pour les parents : plus tôt on s'en débarrassait, mieux cela valait. Si un " mari" de 3 ans mourait de rougeole ou de coqueluche, sa promise était considérée comme veuve et devait le rester toute sa vie. Certes, au cours de l'histoire très mouvementée de l'Inde, la position de la femme n'est pas toujours restée la même. Il y eut pour elle, notamment sous l'influence bouddhiste, des périodes de liberté relative, et d'autres d'oppression plus dure. Sous la dynastie Goupta, aux 4e et 5e siècles de notre ère, époque de bien-être et de civilisation raffinée, il y eut des femmes employées dans des postes administratifs élevés. Mais cela n'exclut pas qu'au même moment la polygynie se répandit, que le célibat des veuves fût observé de la manière la plus stricte et que leur crémation fût pratiquée de plus belle. Survivre à son époux était une honte pour une femme de haut rang. C'est précisément de cette époque où l'on livrait au bûcher une foule de femmes, que date le plus célèbre et probablement le plus ancien bréviaire d'amour de l'Inde : le "Kâma soûtra" qui signifie littéralement : "Préceptes d'amour". Ce manuel d'érotique traite l'acte sexuel, avec tous ses préliminaires. Remarquons que l'art de l'érotique n'est pas seulement destiné à préparer le plaisir de l'homme. Il doit aussi procurer à la femme le summum de la volupté. Vâtsyâyana prétend même que la femme peut parvenir à des joies plus intenses que l'homme, car se donner est pour elle la volupté de prendre conscience de sa valeur personnelle. Mais son rôle n'est nullement passif, elle s'anime par les stimulations de toute sorte de son partenaire, afin d'atteindre elle-même la pleine réalisation de ses désirs.

35. Historical aspects of anatomy in ancient India

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Although people live in the present, they plan for and worry about the future. History, however, is the study of the past. But given all the desirable and available branches of knowledge, why insist on studying history, and why urge students to study even more history, especially medical history? We grasp how things change, comprehend the factors that cause change, understand what elements of a society persist despite change, helps us understand how recent, current and prospective changes affect the lives of people and encourages habits of mind for responsible public behavior, is our quick answer! The science of Anatomy is to Physiology, as the Geography to History. "It

describes the theatre of events", declared Jean François Fernel (1497–1558), the French physician who introduced the term "physiology" to describe the study of the body's function. The country of India is considered as the cradle of human race, the birthplace of human speech, the mother of history, the grandmother of legend and the great grandmother of tradition. Anatomy is the oldest and the most important of all medical sciences, and there is enough evidence of practice of this science in the ancient Hindu India. Susruta and Charaka, were two great ancient Indian doctors, and are considered as the 'twin pillars' of Ayurveda. Susruta (200 years BC) was a contemporary of Atreya, who was Charaka's teacher. The first written evidence of Ayurveda (in Sanskrit), are *Charaka samhita* and *Susruta samhita* (1stA.D.) Both samhitas devote a complete section to anatomy, embryology and histology. In *Susruta Samhita*, we read: "Anyone who wishes to acquire knowledge of anatomy must prepare a dead body and carefully observe and examine all its different parts… should select a body, which is complete...the body should be wrapped in grass and placed in a cage…. and allowed to decompose. After seven says, the thoroughly decomposed body should be taken out and very slowly scrubbed with a whisk made of grass roots…". Susruta is called "the father of rurgery", but can be also named as 'the father of applied anatomy'. However, the Hindu anatomists were not allowed to cut the body, for traditional reasons and religious beliefs. These early Indian anatomists and doctors divided the human body in six parts, e.g. four extremities, the head and the trunk. Specific emphasis was also given to the bones, ligaments, muscles and joints. The viscera were described, but not in details. The central nervous system was not described, but there were some mentions for cranial nerves. This primary "knowledge" of the structure of the human body gained through "dissection" and later surgery was applied to various conditions and was used well in the practice of medicine and surgery.

36. La physiologie fantaisiste des anciens Hindous

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Chez les Hindous anciens, les préoccupations spirituelles ont toujours

pris le pas sur les soucis matériels. Les Védas sont des textes spirituels qui constituent davantage des poèmes philosophiques, magiques et religieux que des préceptes médicaux. Cependant on y trouve une des bases de la médecine indienne, à savoir l'impossibilité de différencier l'âme du corps et de dissocier le visible de l'invisible, car les deux sont animés par des "souffles". Selon les *Védas* la maladie résulte d'une transgression des règles qui gouvernent le monde et la divinité offensée par ce péché provoque le mal mais peut aussi le guérir. Les plus anciens documents écrits en sanscrit et ayant trait à la médecine seraient le *Rig-Véda*, le *Yahur-Véda,* le *Sama-Véda* et *l'Atharva-Véda*. A partir du VIe siècle avant J.-C., une première "période des Lumières" apparaît en Inde et ailleurs au monde, et les documents se modifient. Le système médical, désigné sous le nom d'Ayurveda ("Savoir sur la longévité"), se répand en même temps que le bouddhisme dans tous les pays de Sud-Est asiatique. La philosophie médicale ayurvédique établit comme la plupart des civilisations antiques une analogie fondamentale entre le corps humain et le cosmos. Les connaissances anatomiques sont rudimentaires dans la tradition ayurvédique et grâce à quelques rares dissections de cadavres décomposés. Charaka et Susruta ont eu le mérite de codifier la médecine traditionnelle de l'Inde dans deux collections, (Samhita). La pratique médicale est conceptuellement subordonnée à une théorie des humeurs. La matière du corps vivant ("microcosme") comme celle de la nature environnante, est constituée de cinq éléments : terre ("prthivi"), eau ("ap"), feu ("agni"), vent ("vayu") et vide ("akasa"). Leurs combinaisons forment les substances différenciées de l'organisme, les sept "dhatu": le chyle, le sang, la chair, la graisse, les os, la moelle et le sperme. Les sept dhatu contiennent un principe liquide, "ojas" ou force, qui les rend vivants et a son siège dans le cœur. L'Ayurveda professe que les éléments actifs sont le vent, le feu et l'eau qui circulent en profond de l'organisme sous la forme des trois humeurs, le souffle ("prana"), la bile ("pitta") et le phlegme ("kapha"). La santé résulte de leur concours bien réglé et l'idiosyncrasie est déterminée par une subtile combinaison des trois humeurs. Le corps est animé par un souffle vital associé à de nombreux souffles secondaires qui régissent les diverses fonctions de l'organisme. Les éléments nécessaires à la vie sont contenus dans la nourriture.

37. Acupuncture and moxibustion as reflected upon numerous recent patents and patent-applications claiming industrial property rights for relevant contemporary medical uses

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There is strong evidence that there was interaction between Ancient Indian and Greek Medicine, as well as, Medical Theory and Practice of other important early Ancient Civilizations, as the Egyptian, Assyrian, Babylonian, Persian, Hebrew etc. There is a still on-going dispute about ancient Chinese and Indian Medicine, concerning the origins and the development, of presently extensively used treatment methods, as for example, the Acupuncture and the Moxibustion. Nevertheless, it seems that Indian medical tradition and practice, has been for Centuries the "Interface" between "Near-East" and "Far-East" Medicine. The aim of this presentation is to describe two closely related ancient oriental medical practices, Acupuncture and Moxibustion. Acupuncture existed in the New Stone Age and needles were made out of bone or stone. The first known book of the "Yellow Emperor" dates back between the 1st Century BC and the 1st Century AD and all styles of Acupuncture currently practiced, trace their roots back to it. The origins of Moxibustion therapy remain rather a mystery. The source of ignition might have been the sun, and Mugwort (Artemisia Vulgaris) was the most appropriate material for "attracting solar fire", by employing a solar speculum, and be slowly burned. The method has been used at least since the Warring States period (~481 or 403 BC) and burning became the standard method of moxibustion. These methods are approached, as they are reflected upon numerous recent Patents and Patent-applications (IP-Docs), claiming Industrial Property Rights, for their employment in relevant contemporary Medical uses. An extended search has been performed, by employing the European Patent Office (EPO), the US Patent and Trademark Office (USPTO) and the World Intellectual Property Organization (WIPO) search-engines, and several specific IP-classes have been searched, related to these two ancient therapeutic techniques. 5371 relevant IP-docs related to Acupuncture and 4869 related to Moxa and Moxibustion have been published since 1960 until 18-04-2017. These documents have been retrieved and evaluated and "Patent mappings" thereof have been created. They will be displayed and commented during the Conference, as for example: Acupuncture: Patent applications per Decade (1960-today); Moxibustion: Patent applications per

Decade (1960-today); Acupuncture: Patent-application numbers according to filing Office; Moxibustion: Patent-application numbers according to filing Office etc. Although these two treatment methods, as well as, several other ones, are employed since more than 2000 years in China, India and other Asian regions, they are still carrying useful innovative potential, to be employed in the present, combined with modern Hi-Tec Technology.

38. Le manuel d'érotologie hindoue *Kama Sutra*, une œuvre maîtresse de la littérature sexologique mondiale

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La littérature de tous les pays renferme un certain nombre d'ouvrages spécialement consacrés à l'amour. Partout le sujet se trouve traité différemment et sous des points de vue variés. Nous allons présenter très brièvement le contenu du livre *Les Aphorismes sur l'Amour* ou *Kama Sutra* de Vatsyayana, qui représente le plus important ouvrage de ce genre de la littérature sanscrite. Les *Aphorismes* contiennent à peu près mille deux cent cinquante versets et sont divisés en parties, les parties en chapitres et les chapitres en paragraphes. Il n'est pas hors du de propos de mentionner ici d'œuvres de même nature, composées par des écrivains postérieurs à Vatsyayana, mais qui cependant le considéraient comme le maître de la littérature érotique hindoue. On peut donc consulter, dans l'Inde, outre le traité *Aphorismes de l'Amour* de Vatsyayana les ouvrages suivants sur le même sujet : 1) *Les Ratirahasya*, ou *Secrets d'Amour*, 2) *Les Panchasakya*, ou *Les Cinq Flèches*, 3) *Le Smara Pradipa*, ou *La Lumière d'Amour*, 4) *Ratimanjari*, ou *La Guirlande d'Amour*, 5) *Le Rasmanjari*, ou *La pousse d'Amour*, 6) *L'Anunga Runga*, ou *Le Stage d'Amour*, aussi appelé *Kamaledhiplava,* ou *Un Bateau sur l'Océan d'Amour*. Mais revenons au *Kama Sutra* : rien n'est pratiquement connu de son auteur. Son vrai nom est supposé être Mallinaga ou Mrillana : Vatsyayana pourrait être son nom de famille. Il est impossible de fixer exactement la période de la vie et de l'oeuvre de Vatsyayana. Il est supposé avoir vécu entre le premier et le sixième siècle après J. C. Il mentionne par exemple que Shatakarni Shatvahana, roi de Kuntal, tua sa femme Malayavati en la frappant dans sa passion de l'amour ; Vatsyayana cite le cas des gens à mettre en garde contre le danger de certaines vieilles coutumes, autorisant à frapper les femmes sous l'influence de cette passion. On croit aujourd'hui que le Roi de Kuntal a vécu et régné durant le premier siècle après J. C. Ainsi Vatsyayana aurait

vécu après lui. D'autre part, Virahamihira, au 18e chapitre du *Brihatsamhita*, traite des sciences de l'amour et semble avoir, sur ce sujet, fait de larges emprunts à Vatsyayana. On avance maintenant que Virahamihira vivait au 6e siècle après J. C. L'œuvre de Vatsyayanalui est donc antérieur. Pas avant le 1er siècle et pas après le 6e, telle est approximativement la période où vivait Vatsyayana. A propos du texte sur les *Aphorismes de l'Amour* de Vatsyayana, deux commentaires seulement ont été retrouvés. L'un s'appelle *Jayamangla* et l'autre, *Sutravritti*. La date du *Jayamangla* est fixée entre le 10e et le 13e siècle après J. C. Son auteur est supposé être un Yashodhara, et le nom qui lui fut donné par son précepteur étant Indrapada. Il semble avoir écrit à l'époque où il souffrait de sa séparation avec une femme habile et perspicace : c'est du moins ce qu'il en dit lui-même à la fin de chaque chapitre. Il est présumé avoir titré son ouvrage d'après le nom de sa maîtresse absente, ou par un mot pouvant avoir quelques rapports avec la signification de ce nom. Ce commentaire fut des plus utiles pour expliquer la vraie signification des écrits de Vatsyayana, car le commentateur paraît avoir eu des connaissances considérables sur l'époque à laquelle vivait cet auteur ancien ; il donne à plusieurs reprises de très précieuses informations. On ne peut en dire autant de cet autre commentaire intitulé *Sutravritti*, écrit vers 1789 par Narsing Shastri, élève d'un certain Sarveshwar Shastri. Ce dernier, tout comme notre commentateur, était un descendant de Bhaskar, car, à la conclusion de chaque partie, il se désignait lui-même Bhaskar Narsing Shastri. Il fut conduit à écrire cet ouvrage sur l'ordre du Professeur Raja Vrijalala alors qu'il résidait à Bénarès. Mais ses commentaires ne méritent guère d'éloges tant il apparaît que, dans de nombreux cas, il ne semble pas avoir compris la pensée de l'auteur à l'origine de l'ouvrage, et qu'il a modifié le texte de nombreuses fois pour l'accorder avec ses propres explications. Notre exposé va s'appuyer sur une traduction abrégée de l'œuvre originale dont la table des matières est la suivante : 1ère Partie (Les Relations Sexuelles) **:** 1) A propos de l'étude du Kama Soutra, 2) La vie d'un citoyen, 3) Les différentes sortes d'unions et de querelles d'amoureux, 4) Les différentes sortes d'union sexuelle, 5) L'étreinte, 6) Le baiser, 7) Presser, marquer, égratigner avec les ongles, 8) Les différentes façon de frapper et les sons appropriés, 9) La morsure, 10) Les différentes formes d'union, 11) L'inversion des rôles, 12) L' "Auparishtaka", ou relation buccale, 13) Les façons d'exciter le désir. 2ème Partie (La Séduction) **:** 1) Les caractéristiques des hommes et des femmes, 2) Le genre de femmes que fréquentent les citoyens, 3) Examens d'état d'esprit d'une femme, 4) La conquête d'une femme, 5) L'art de charmer, 6) Les autres formes du mariage, 7) Les femmes du harem royal et la garde de sa propre épouse. 3ème Partie (Sur le Mariage) : 1) De l'acquisition d'une bonne épouse, 2) Pour gagner la confiance de la jeune fille, 3) La vie d'une femme vertueuse, 4) La conduite

entre maris et femmes, 5) La manifestation des sentiments par les signes et les actes extérieurs. 4ème Partie (Les courtisanes)**:** 1) Les raisons pour lesquelles une courtisane attire les hommes, et celles de son attachement à l'homme qu'elle désire, 2) La vie d'épouse d'une courtisane, 3) Les moyens d'obtenir de l'argent. Les signes du changement de sentiments d'un amant et les moyens de s'en débarrasser.

39. Ayurveda in India: Knowledge, Practice and Ideas in Transition

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India has a long established medical tradition, *Ayurveda* (science of life), the historical trajectory of which goes a long way back in history. As one of the oldest systems of medical knowledge, Ayurveda exhibited noticeable resilience when faced with several challenges owing to various socio-political changes as well as encounters with new systems of medical knowledge. As a consequence, there was a change in the paradigm of Ayurveda, in the way it was perceived and practiced over centuries in India. The historical trajectory of Ayurveda is, thus, replete with the dynamic processes through which medical knowledge and practices in India were shaped and re-shaped in their negotiations with ideological imperatives. While new theories of understanding the ecological surroundings, medical and technological innovations intercepted the said phases of encounters, other factors contributed to the appropriation of indigenous knowledge by practitioners of biomedicine to the western paradigm of drugs and treatment, the proliferation in literary activities, the rise of the educated elite, the rise of the nationalist movement and the participation of the local population in revisiting India's cultural heritage. Thus, the most significant changes took place during the British colonial period which not only introduced a new paradigm of biomedicine but also triggered the 'nationalistic revival' of Ayurveda in the 19th century and its post-colonial integration with the modern health systems. The discussion here will focus on two issues: firstly, the historical changes in medical knowledge and practice as a result of contestation, competition, and conflicts between Indian and western biomedicine which eventually led to medical pluralism; secondly, the post-colonial integration of Ayurveda with biomedicine and its practices which gave Ayurveda a new "social space" and popularity as a "new" form of medical therapy in the global health market; the latter is amply facilitated by

government promotion, recognition and patronage as an indispensable part of Indian culture and heritage.

40. La reconstruction plastique du nez : de la méthode indienne aux méthodes européennes (Tagliacozzi, Carpue, von Gräfe)

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L'amputation accidentelle (duel, guerre, supplice) ou pathologique (syphilis, lupus tuberculeux) du nez était assez fréquente autrefois. Cette mutilation avait pour conséquence d'afficher son état d'infamie et toujours un préjudice esthétique qui faisait reculer d'horreur! Les chirurgiens ont dû faire face à une demande de réparation et, selon les époques, proposer de véritables interventions plastiques, «la fabrique du nez». Notons d'emblée que la complexité de ces opérations ont effrayé d'autres chirurgiens qui ont préféré proposer une prothèse (Falloppio, Paré). Il est, comme toujours en histoire de la médecine, intéressant de noter les vicissitudes des connaissances médicales, les transmissions du savoir et de tenter d'expliquer les raisons de l'oubli pendant deux siècles de l'opération de l'Italien Tagliacozzi. Dans le Sushruta Samhita, élaboré entre environ 600 av J.-C. et le IVe siècle ap J.-C., la chirurgie reconstructive est une spécialité emblématique de la chirurgie indienne. La reconstitution des nez coupés se fait au moyen d'un lambeau jugal. Pendant La Renaissance italienne des chirurgiens du sud de l'Italie : les calabrais Benedetti, Viana, Boiani, les siciliens Gustave Branca et son fils pratiquaient cette opération avec avantage, et cela dès la fin du 15e siècle. Gaspare Tagliacozzi (1549-1599) n'est donc pas l'inventeur de cette technique : il s'en est inspiré en l'affinant, en la décrivant et en l'illustrant. En 1597 paraît donc à Venise chez Gaspare Bindoni son traité in-folio de 298 pages: *De curtorum chirurgia per insitionem libri duo* (Les deux livres de la chirurgie des mutilations au moyen de la greffe), illustré de 22 planches gravées sur bois. Cette technique assez lourde fixant le nez sur l'avant-bras pendant au moins 14 jours sera oubliée après sa mort. Les Anglais découvrent, à la fin du 18e siècle, la méthode traditionnelle indienne de réfection nasale. En 1794, le *Gentleman's Magazine* publie un article où il décrit avec une illustration une opération de reconstruction du nez chez un indien à qui on avait coupé une main et le nez. Il ne s'agit plus d'un lambeau jugal mais d'un lambeau frontal! C'est le premier cas rapporté en Europe de la méthode indienne de rhinoplastie par

lambeau frontal. Cela a conduit à la redécouverte de la méthode italienne et à l'amélioration des techniques. Joseph Constantine Carpue (1764-1846) effectue en 1814 et 1815, avec succès, deux opérations avec lambeau frontal qui seront relatées dans son célèbre ouvrage *An account of two successful operations for restoring a lost nose from the integuments of the forehead* publié en 1816. Karl Ferdinand von Gräfe (1787-1840), reprochait à la méthode italienne sa longueur excessive et à l'indienne la cicatrice occasionnée sur le front, réalisant une nouvelle infirmité. Il perfectionne donc la méthode italienne en prenant la pièce de peau manquante sur l'avant-bras mais "de l'unir au moignon du nez aussitôt après qu'il est taillé". Il ne s'agit donc plus d'un lambeau mais d'une greffe de peau totale qu'il dénomme "méthode allemande". Son ouvrage *Rhinoplastik, oder die Kunst den Verlust der Nase organisch zu ersetzen* paraît en 1818: le terme de "rhinoplastie" est né ! L'importation de la nouvelle méthode indienne (par lambeau frontal) et la technique de greffe inspirée de la méthode italienne sont à l'origine du renouveau de la chirurgie plastique ou réparatrice.

41. La vie aventureuse de Sir Richard Burton (1821-1890) et son apport à la mise au jour de l'érotologie Hindoue

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Les textes des trois œuvres maîtresses de l'érotologie hindoue, du Kama Sutra (le traité sur l'art de l'amour certainement le plus célèbre et le plus connu qui n'ait jamais été publié), de l'*Ananga-Ranga* (Un vrai manuel de bonheur conjugal illustrant au couple toutes les techniques érotiques possibles, codifiées scientifiquement et expliquées profondément afin d'acquérir une authentique "connaissance du corps", condition indispensable pour la bonne réussite du mariage), et du Jardin Parfumé (Il est originaire de la culture arabe et peut être considéré comme un texte érotique dans le vrai sens du terme. L'œuvre du cheikh Nefzawi est certainement à la hauteur des meilleurs textes de littérature érotique de la culture occidentale), sont basés sur les éditions anglaises établies au 19e siècle par Sir Richard Burton (écrivain, explorateur et aventurier britannique) qui a en réalité le mérite de les avoir révélé à l'Occident grâce à ses célèbres traductions. Expulsé d'Oxford pour s'être battu en duel et avoir refusé

de se conformer au règlement, Burton s'enrôla dans l'Infanterie indigène de Bombay en 1842 à Baroda. Détesté par ses collègues officiers, il eut plus de succès auprès d'une fille hindoue qui partageait son bungalow et il fut surnommé "le nègre blanc". Ce ne fut pas son style de vie privée mais sa passion pour la culture et les langues orientales qui lui valurent ce surnom. Cependant sa tendance à s'habiller comme un indigène et son penchant pour les langues indiennes qu'il maniait avec facilité pour passer inaperçu de nuit dans le "bazar" ont eux aussi contribué à l'existence de ce surnom. Ces capacités donnèrent l'idée au général Sir Charles Napier d'utiliser Burton comme espion. Ce rôle s'adaptait parfaitement tant à la personnalité qu'aux dons de ce jeune officier : secret et dangereux, il lui faisait toucher de près les pulsions intimes de la vie ; lui seul était capable de faire de telles choses. Mais, comme cela arrivait souvent avec Burton, l'éclat qui aveugla les autres finit par se retourner contre lui. Il entreprit beaucoup de choses qui suffiraient à remplir une douzaine de vies, mais souvent, quand tout semblait répondre à ses attentes, il rétrogradait au point de départ à cause des démons qui faisaient partie de sa personnalité. A Karachi, Burton fut chargé par Napier d'enquêter sur les maisons de prostitution car la syphilis menaçait l'efficacité des militaires et Napier voulait avoir une idée claire sur la situation. Il obtint un résultat qui allait bien au-delà de ce à quoi il s'attendait! Le général, fameux pour sa dureté, fut profondément surpris en apprenant que trois bordels étaient organisés pour une clientèle homosexuelle. Sa naïveté dut surprendre Burton qui fut néanmoins chargé de rédiger un rapport exhaustif et réservé afin de faire fermer ces lieux. Burton rédigea aussi un rapport riche de détails sur les pratiques des eunuques, des jeunes gens et sur les requêtes des clients. L'armée n'a jamais été le lieu qui correspondait à Burton. Trois ans supplémentaires en Inde furent trop et Burton, déprimé et malade, repartit pour l'Angleterre en 1849. Durant la décennie qui suivit, Burton finit deux des plus grandes entreprises de sa vie, celles pour lesquelles il devint célèbre. En 1853, déguisé en pèlerin, il se rendit à La Mecque. Ce n'était pas le premier des infidèles à avoir le courage de courir ce terrible risque, mais le récit de ces expériences constitue une œuvre merveilleuse. Puis commença la période de l'exploration de l'Afrique qui culmina avec le plus célèbre de ses voyages : l'expédition entreprise avec John Speke à la recherche de la source du Nil. Après avoir affronté des épreuves et des dangers terribles, Speke et Burton découvrirent le lac Tanganyika. Cette espèce de vaste mer, à l'intérieur du continent, devait sûrement être, selon eux, la source du Nil et, après une rapide reconnaissance, ils revinrent à la ville de Kazeh. Là ils se reposèrent et se préparèrent au voyage de retour vers la côte. Speke cependant voulait continuer l'exploration vers le Nord avant de repartir : le bruit circulait qu'il existait un autre lac. Burton refusa de l'accompagner et Speke dut y aller seul. Le destin se répéta : alors qu'il tenait dans ses mains le succès total, Burton le laissa échapper. En effet ce fut Speke,

et non Burton, qui découvrit le lac Victoria, la vraie source du Nil. Ce ne sera pas la dernière fois qu'une telle situation se répètera. Des années plus tard, alors que l'amertume et la jalousie suscitées par l'expédition du Nil, et la mystérieuse mort de Speke n'étaient plus que de lointains souvenir et, après avoir accompli une série de missions sur ordre du "Foreign Office" qui n'étaient pas adaptées à ses capacités, il fut nommé consul à Damas. Il s'approchait alors de la cinquantaine, ses conditions de santé n'étant pas des meilleures, cela pouvait être le dernier poste idéal pour un passionné d'études arabes. Ne tenant pas compte des merveilleuses possibilités que cet endroit recelait pour lui, il fut muté à Trieste où il mourra dix-huit ans plus tard. Isabelle soutenait inlassablement son mari qui devenait toujours plus irascible et intraitable. A Trieste, il étudia des questions en rapport avec le monde entier. Dans une grande salle étaient disposées plusieurs tables ; sur chacune d'entre elles s'accumulait le matériel relatif à chaque livre, de telle manière que Burton pouvait passer de l'une à l'autre selon l'humeur du moment, comme il l'avait fait dans le temps, se déplaçant d'un continent à l'autre. S'ils croyaient l'avoir freiné, il leur aurait vite démontré qu'ils avaient tort et que c'était une folie de penser que ses expéditions étaient terminées. D'ailleurs, il y avait des lieux cachés de la littérature hindoue, et lui seul possédait la clé pour pénétrer dans le jardin parfumé. La porte du bureau de Burton était très souvent close pour Isabelle. Cette femme dévote et conventionnelle ne s'intéressait pas au fait de savoir si les Arabes appellent l'anus "grenade" ou si l'infibulation est pratiquée par telle ou telle tribu. En revanche, de telles connaissances exotiques intéressaient particulièrement certains savants : les membres de la "Kama Shastra Society". La "Kama Shastra Society" n'était pas moins mystérieuse que son fondateur. Les fausses pistes et les culs de sac dans lesquels elle s'engageait parfois n'étaient pas seulement dus à l'amour du mystère si cher à Burton, mais à une protection nécessaire pour entreprendre la publication de littérature érotique. A la fin de l'ère victorienne, les acheteurs de livres formaient un vaste public dont une partie considérable était intéressée par le matériel exotique. Des maisons d'édition publiaient des livres pour des lecteurs de tous niveaux, depuis le pire type de pornographie jusqu'à la littérature érotique et aux œuvres sérieuses écrites par des savants. Le dimanche 19 octobre 1890, en rentrant de la messe, Isabelle trouva Burton qui travaillait à la dernière page du Jardin Parfumé. Elle ne savait rien à ce sujet, mais il s'agissait d'une nouvelle traduction d'une section complète omise dans la version originale de la Kama Shastra Society qui parlait d'homosexualité et de pédérastie. L'état de santé de Burton déclinait depuis quelque temps : un médecin habitait en permanence avec eux dans leur maison de Trieste. Deux jours plus tôt, il avait raconté à Isabelle qu'un oiseau avait tapé du bec sur la fenêtre et il avait fait ce commentaire : "Ce petit oiseau est de mauvais augure". Elle avait refusé d'y croire et lui avait fait remarquer que les oiseaux avaient

l'habitude de venir prendre de la nourriture sur le bord de la fenêtre. Mystérieusement, Burton répliqua : "Oui, mais pas à cette fenêtre, à une autre". Son destin s'accomplissait, il sentait qu'il allait mourir. Il a dû ressentir un grand plaisir quand il s'aperçut que cette fois-ci le succès ne lui échapperait pas au dernier moment et qu'il n'avait pas été leurré à la fin de sa vie. Il avait terminé son travail sur la nouvelle et très importante section du Jardin Parfumé. Les retouches finales du travail furent apportées précisément ce dimanche-là. Burton mourut avant l'aube du lendemain. Quand Isabelle lut le manuscrit, elle fut prise de panique, craignant pour la réputation de son mari. Elle jeta au feu le manuscrit, plus de mille pages. L'absence de tout sentiment de culpabilité et de péché à l'égard du sexe est peut-être le message le plus important que le lecteur occidental moderne peut recevoir du Kama Soutra et des autres chefs d'œuvres de l'érotologie hindoue.

42. La physionomie "bestiale" du criminel

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Le crime, en tant que phénomène mystique, a été analysé dans mes études sur La Physiognomonie, où j'ai constaté qu'il est difficile à cerner les limites –en matière de criminigénèse-entre la psychologie et la parapsychologie. Il est d'ailleurs bien connu que, dès les premiers stades de son développement, la Criminologie abondait en croyances démonologiques et mystiques. Les démons, les "génies des passions", prenaient possession du corps et de l'âme du criminel et sa mise à mort par le feu s'imposait pour la purification de toute la communauté. La première tyrannie de soupçon provenait "de la sale gueule"

43. Healing heirlooms. Shark teeth from Bronze Age Gavdos and the liokourna (snake horns) medical folk tradition

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A small set of semi-fossilised (?) shark teeth were found in the Bronze

Age levels of the building complex at Katalymata, on the island of Gavdos off the southwest coast of Crete. These palaeontological discoveries in 2nd millennium BC settlement contexts trigger a preliminary discussion on an odd, but long lasting, popular healing tradition, which seems well established, in various versions, in Crete, Greece and the wider Mediterranean region. In this tradition, shark teeth strangely change their identity to be recognised as "snake horns" (in themselves a paradox for biologists) and they are usually called liokourna/liokorna. Modern islanders used to look for them zealously, finding them in geological formations where a few may have been embedded, and then kept them in their homes for generation after generation. They believe they have strong antipoison powers, mainly against venom in the bites of snakes, scorpions, wasps and other noxious creatures – following, apparently, some principle of sympathetic medicine based on homeopathic antidotes. This paper presents the excavation data and puts them in their ethnographic framework implied from both the native Gavdiots' point of view and our preliminary researches on Cretan and Greek folk beliefs on this issue. In an effort to draw analogies between the scientific evidence and the popular narratives, we shall start by reviewing the ethnoarchaeological context of ancient and modern attitudes towards (semi) fossilised shark teeth, such as, for example, glossopetrae (petrified snake tongues), which were kept as heirlooms for their almost magical curative power to counteract many kinds of toxins, in the Middle Ages and perhaps much earlier. The shark teeth or so-called liokourna from Katalymata, Gavdos, thus appear to fall into an interesting array of ancient folk healing rituals, few of which, as far as we know, have been reported in Mediterranean prehistory, and almost nothing for Crete and the Aegean. They are also a spur to further highly desirable interdisciplinary investigation by archaeologists, environmentalists and social/medical anthropologists focusing on the challenging, and neglected, field of ethno-medicine and comparative health practices in antiquity and today.

44. Harmony and Medicine from Antiquity till nowadays

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45. The benefits of laughter in our daily life and its practical application

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46. The impact of ancient philosophy and medicine in modern toxicology science

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