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The Figures of Melancholy and Mania

De Melancholiae et Maniae Figuris

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Introduction

Too painful is the melancholia and too deeply it drives the roots in our own human condition, to be left in the hands of the psychiatrists.

If we now seek what it means, it is clear we are not looking for a theme of psychology or of psychiatry; it belongs to an order that is, by its real nature, spiritual. We consider it deeply connected with our own human essence.

That's all. Here, above all, is the enigma of melancholia: in a revolt of life against itself; in the fact that impulses of self-preservation, of self-esteem and of self-assertion may be opposed, so particularly, by the impulse of self-destruction, up to the total weakness and eradication.

Romano Guardini, *Vom Sinn der Schwermut*, 1928

The history of the melancholia is the history of the debate among the different views of mental illness. The reaction to biological reductivism is represented by the warning of the theologian and philosopher Romano Guardini (1885-1968): there is the need of a not reductivistic attitude when we cope the world of melancholic patient, when we reflect on our inadequacy, on our misdeeds and generally on the deeper questions of human condition.

We can only partly agree with this warning, as the classical psychiatry, without any doubt on the biological nature of depression, has taught us that in melancholic delusions (hypochondriac, of guilt and ruin) we can notice the primordial anxieties of man about the health of body, the salvation of the soul and the needs of life, according to the expressions of Kurt Schneider (Weitbrecht, 1963).

Only remembering this traditional biological nature we can convince the depressed patient to follow treatment, instead of leaving him in an impotent contemplation, alone with a fatalistic attitude and with the feelings of guilty.

In the concepts of temperaments, mania and melancholy we can find accents of Ancient Greek medicine (Lanczik & Beckmann, 1991).

The book presents a comprehensive selection of writings of the phase that precedes the beginning of the modern psychiatry. As a delimitation criterion, we have selected writings still in Latin¹, which at that time was the language of the scientific debate. We stop at Cullen, who is printed in English².

These are writings that seem to repeat the same “figures”, but they do it acquiring new suggestions, because they are reinterpreted with a new key of reading. We limit ourselves to follow in brief the development of the scientific debate about the melancholy and the mania in the modern psychiatry.

The anastatic edition permits to portray the style and the beauty of the medical tradition at that time.

They are pages rich in the debates that passed through Europe, retaining the echo of so many conceptions and so many interpretative keys. Sometimes we can glimpse “troubled” elements, in a delimitation not yet occurred between science and the magic.

Bernard de Chairvaux handed down to us the image of the grandchildren climbing the shoulders of the grandfather, in order to see further³. We draw from the complex inheritance of the European tradition, something different from an aseptic and “atheoretical” D.S.M.

Different historical interpretations of melancholy and its relationship with temperament are discussed: the physiological theories of humours, the supernatural

¹ The Latin texts reproduced are drawn from books preserved in private libraries, as in Italy the Utopistic Reform Law has closed the libraries together with the Mental Hospitals.

² There is also an Italian translation.

³ Sometimes the Authors, displaying modesty, compare themselves to dwarfs on the shoulders of the giants.

interpretation, the theological conception of the capital vices, the influence of the alchemy and of the esotericism and the role of the passions at the dawn of contemporary psychiatry.

We think to show that there is a conceptual continuity across the different views (Wyrsh, 1965) rather than just a verbal continuity (Starobinski, 1960) and that the psychopathological descriptions are related to aetiological hypothesis and to subsequent therapeutic approaches.

The roots of the current classification of affective disorders can be traced back to Ancient Greek medicine. The term itself of melancholy had origin from the theory of humours and during many centuries melancholy has been employed in order to

designate different mental disorders, also if the established clinical employ defines the decrease of mood. Only during the eighteenth century the term depression began to be used, for the first time by Samuel Johnson (1969), when he wrote:

It is not difficult to conceive, however, that for many reasons a man writes much better than he lives. For without entering into refined speculations, it may be shown much easier to design than to perform. A man proposes his schemes of life in a state of abstraction and disengagement, exempt from the enticements of hope, the solicitations of affection the importunities of appetite, or the depressions of fear, and is in the same state with him that teaches upon land the art of navigation, to whom the sea is always smooth, and the wind always prosperous.

1. The theory of humours

The term melancholia had origin from the theory of humours (humoralism). Melancholy is the Latin transliteration of μελαγχολία, which derives from μέλαινα χολή (in Latin *atra bilis*), black bile. You meet the term first in the oldest part of Corpus Hippocraticum (V century B.D.), where it indicates an illness caused by a quality of bile (χολώδης). In the last Hippocratic writers the corresponding type is indicated with higher precision as μελαγχολικός and the same adjective is used with other similar expressions (άθυμος, δυσφορία) for describing a mental or humoral state of depression and sadness (τά περί τήν γνώμην μελαγχολικά) (Muller, 1980). The medicine, from Hippocrates (460-375 B.C.) to the modern age, based itself on the theory of humours considered harmful not by itself but rather by the excess or by the absence. The four humours *blood, phlegm, yellow bile* and *black bile*, basic substances of the body constituting all tissues and organs, corresponded to elements constituting the inanimate world and like these they corresponded to fundamental physical features: *warm* and *cold, humid* and *dry*. In his treatise *De natura hominis (Nature of man)* Polibus, Hippocrates's son in law, about 400 BD, outlines the theory of the humours as follows:

The human body contains blood, phlegm, yellow bile and black bile: the constitution of the body, the illness and the health derive from these humours. When reciprocal mixture, effect and quantity of the individual humours are proportioned and when they are connected more closely, the man is at the top level of his health; instead when someone among the humours isolates itself and does not mix to the others, he falls ill. If one of them isolates itself and remains as for itself, it will fall ill not only the part that remains empty, but also the one where the

humour is heading for and is accumulating, because the excess causes pain and trouble. The emptying is painful even if from the body comes out a major quantity than necessary because of the excessive pressure. If the emptying, the shift and the isolation of the other humours happen toward the interior, double pains necessarily manifest themselves where the humour is lacking and where the humour is over forming.

Polibus, about 400 BD

Hippocrates (1931) considered black bile the key element in the pathogenesis of melancholia,

Mental illness is one of the clinical expressions of the physical pathology: there is no distinction between body and mind and the same elements are the essential constituents of all the natural things. According to the humoral theory, the variations in the liquid of the body (the humours) are the causes which could produce affective states. The black bile could cause sadness.

In the Hippocratic book *Nature of Man* health is due to the optimal equilibrium (in Greek ευκρασία) of the four humours.

When these four humours flow more neither less than the right quantity, the man is in a very good health

Anonym *De mundi constitutione*⁴

Disease is produced by the disturbance of this equilibrium (δυσκρασία), when there is an imbalance for an excess or a deficit of one or more humours. There are correspondences amongst the humours in man, the ages of man, the seasons of the year:

⁴ We took a text of early Middle Ages, preceding 1135, printed among Bede's works, to demonstrate the "long duration" of humours doctrine until Renaissance.

There are four humours in man, which resemble the different elements, they are increasing in different times and prevail each in different ages. The blood resembles the air, it increases in spring and prevails in childhood. The yellow bile resembles fire, increases in summer, and prevails in adolescence. The black bile resembles earth, increases in autumn, and prevails in maturity. The phlegm resembles the water, increases in winter, and prevails in elderly.

Anonym *De mundi constitutione*

It illustrates in an abstract and simplified way the harmony and analogy between man and universe, microcosm and macrocosm. The four elements constitute the world (water, air, earth, fire) (Koelbing, 1985). The course (the long time) has been one of the main characters of melancholia.

When worry and sadness persist for a long time, it is a melancholic state.

Hippocrates, *Aphorismata*, V-IV centuries B.C.

Moreover, in the individual constitution can prevail one of the humours: this particular mixture of the humours (*idiosyncrasia*) produces the predisposition to the illness of each person.

Originally the mixture of the humours caused above all the physical constitution and his predisposition to the illness; by developing the theory of four humours the prevalence of each humour on the other influences finally even the human fundamental psychic condition.

According to the humoral theory, the humours are causes which could produce affective states.

Mental illness is the clinical expression of an organic pathology. This is a physiological explanation.

Greek medical texts rejected a supernatural explanation of melancholy. The mental illness is clearly the expression of an organic trouble and the melancholic is not damaged by the envy of a divinity.

Thus asserts Hippocrates:

Why the divinity should influence negatively the man? Even if it could be possible, the divinity would act for the good of the individual and not for his harm?

Hippocrates, *De morbo sacro*, V-IV centuries BD

In the oldest part of the Corpus Hippocraticum was mentioned the type of black bile, then named μελαγχολικός. Therefore phlegmatic, melancholic and sanguine persons have been differentiated as inclinations toward particular illnesses: the melancholicus type presents an inclination toward the melancholy.

There is also the notion of mania as a condition of psychomotor and affective excitement (Jones & Withington 1923). It can culminate in irrationality, considered as a common mechanism of insanity (Berrios, 1996).

Soranus of Ephesus (100 B.C.) distinguished Phrenitis, a delirious state with fever, Mania, a disorder of reason without fever and Melancholy, sadness without fever. According to the Author, "the name does not originate, as many believe, from the notion that the black bile is the cause or the origin of the illness", but from the fact that "the patient often vomits black bile". Melancholy is due to a physical pathology, an illness of oesophagus (Caelius Aurelianus, 1950).

Subsequently Alexander of Tralles (Trallianus) (VI century AD) also connected mania to melancholy interpreting it as an accentuation of the disorder, as an advanced stage of melancholy⁵.

In the first century AD, Aretaeus of Cappadocia describes attentively the μελαγχολία, identifying the different degrees of severity, the sadness, the discouragement, the slowing down, the exhaustion and moreover the misanthropy, the impossibility to feel the emotions, the refusal to live and the tendency to the suicide. He describes somatic symptoms also, usually caused by the

⁵ Ουδέν γάρ εστιν άλλο μανία ή επίτασις της μελαγχολίας επί τό αγριώτερον (ed. Puschmann, vol.I, pp. 591).

presence of black bile in the stomach and in the diaphragm (Muller, 1980).

Aretaeus writes:

The melancholy is an affection without fever, where the grown sad spirit remains always obsessed by the same idea and always there obstinately. Then the mind judges as the black bile wishes. As the fever determines an acute Amenthia, when the mind is disconnected, the sick person sees monsters, hears voices, moves disorderly because the cerebral tissue is overheated, similarly it occurs for the melancholy: the corrupt and sick subdues the reason by the dark image. As an opacity of crystalline lens produces a dim vision the black bile acts: the man becomes like a child fearing the darkness.

Aretaeus of Cappadocia, about 100 AD

Aretheus left us very detailed clinical descriptions and understood the association between melancholia and mania in the same patients, the distinction between melancholic delusions (lucid) and confused delirium (in amenthia), anticipating the concept of olothymia; his authority went through the centuries, so that in 1600, fifteen centuries after, we can find that some of his observations are still mentioned even if inside different interpretative patterns.

Galen (130-201 AD) broadened the theory of four humours and developed a theory of temperaments. The word temperament derived in fact from Latin *tempero* (to mix) and from *temperies* (right mixture). The ideal temperaments mean a balanced mixture of main elements. They are more bodily constitutions.

Table 1-1. Humours and temperaments in Galen.

| | | | | |
|----------|--|------------------------|---|-----------------------------|
| Galen | blood | yellow bile | phlegm | black bile |
| | Sanguineus | Cholericus | Flegmaticus | Melancholicus |
| Actual | Sanguine-Hyperthymic | Choleric-irritable | Cyclotymic | Melancholic-dysthymic |
| Comments | Simplicity and stupidity depend on blood | Sharpness and keenness | The property of phlegm, ruinous for character, arises from the first transformation of the dishes | The firmness and steadiness |

Only later temperaments came to refer to characteristic psychological dispositions.

The Author outlines:

There are many varieties of delusions in melancholy, all due to a corruption of imagination and connected with similar factors: fear and sadness. The melancholic persons are sad without a cause and neither understand why are crying and cannot realize.

And also:

The other atrabilious humour which is generated by combustion of yellow bile provokes violent delusion, in the presence or absence of fever, because it occupies the substance of the brain itself.

Galen, 130-200 AD

According to Galen, it is caused by an illness of the stomach, whose blood, turned black like bile, would emanate a kind of exhalation toward the brain (ἐπι τόν ἐγκέφαλον ἀναφερομένης της μελαγχολικής ἀναθυμιάσεως); the worsening of the troubles was believed as a heap of black bile, believed

as produced by the spleen, in the brain (Muller, 1980). Differently from the blood, from the phlegm and from the yellow bile, the black bile (μέλαινα χολή, *atra bilis*, *humor melancholicus*) is a fictitious substance. At first, the conviction of his existence was founded on the observation that the sick persons sometimes eject black heaps (faeces, vomit). It is evident the interpretation that the organism eliminated a particular black substance over⁶, and the ancient doctors tried to contrast the making of the black bile through the control of the way of life and particularly of diet⁷.

It was much considered as anti-depressant from antiquity up to the beginning of Modern age the *black hellebore*, *Helleborus niger*, from whose roots (green and black) can be obtained a sternutatory, but above all an emetic and a strong laxative, not really innocuous; therefore hellebore could purify the body in different ways (Muller, 1980).

This root provoking a hard irritation to the melaena confirmed the conception of the black bile. Actually it seemed that, quite apart from the melaena, gloomy persons benefited from it⁸.

The oldest name of the plant is Melampodion, "*black small feet*", and according to the tradition it was Melampus, "*black foot*", a fortune-teller, or rather a shepherd, who discovered its therapeutic effect:

"After observing the laxative effect provoked by the plant on the goats that ate it, he administered the milk of these goats to Preto's daughters healing their madness"

Plinius, *Naturalis Historia*, book 25 (quoted in Starobinski)

⁶ The certainty that it was transformed haemoglobin was reached only in XIX century, through the chemical research.

⁷ Watery food, like ripe fruit, fresh fish and meat of young cow, were considered beneficial; the female body contains more humidity than the male one, the young more than the old. Wine enlivens the oppressed heart, warm baths, in summer even the fresh ones, do the gloomy persons good, as well as the sleep (Koelbing, 1985).

⁸ It is a clear example of the weakness of the criterion *ex juvantibus* that can lead to errors when, even in the research, we give importance only to the results that confirm our working hypotheses.

There is an analogy among black despair, black bile that provokes it and black root capable to heal it⁹, and from antiquity up to modern age (Burton, 1621) intellectuals took hellebore for sharpening their wits (Koelbing, 1985).

⁹ According to Starobinski (1960) hellebore corresponded in an ideal way to an imaginary pharmacology. Considered a specific remedy against melancholy, it was used at the same time as a panacea against diseases of a very different type (paralysis, gout, tumours and skin diseases). In XX century naturalistic medicine it survives as remedy against cerebral, uterine and renal diseases.

2. The daemonologic vision

At the end of Classical Age the demonological vision of melancholia almost replaced the naturalistic one. The illness is considered the expression of a supernatural intervention, of demons in the possession.

According to monk Evagrius Ponticus (345-399) (1978), living in the Egyptian desert in the fourth century, the struggle against the daemons consists above all in the struggle against his own thoughts, often caused by strong sensations produced by the daemons, which are besieging us. The daemons are looking for weakness of the emotional part of the psyche of the man and increase them.

The demons have the upper hand on the soul, when the passions multiply: they make the man insensible, extinguishing the powers of his sense-organs for fear that, when it finds a near object, the intellect is able to go up again to him, as from a deep well¹⁰.

To destroy a person faithful to God and to keep this person away from Him, they also dress up as angel of light and propose an exaggerated good¹¹. They suggest the right thing in the wrong moment and in the wrong situation, they subject the men to rigid rules without considering the concrete situation. They cause men to fix on the rigid aspect of the rules and thus presume on the good to lead the individual to a blind alley, in which the man loses the measure of the things and becomes a mere executioner of the law.

You must not try to prohibit the sinful sensations and fantasies, because their strength would increase; simply they should be kept quietly and accompanied by the mental prayer and the practice of psalmody. Then, you must try to know the name of the devil who besieges us. "Who are you? Where

do you come from? What do you want? To ask for the name of the devil (adultery, avarice, envy, sloth, vanity, pride, sadness, lust, etc.) means highlight the secret and external agent who persecutes us in a sneaky and hidden way.

The second weapon is to oppose to the strength of the devil the strength of the word of God. Against the demon of sadness: "Until when Lord will you grow on forgetting me? Until when will you conceal to me your face? (...) Until when will the enemy triumph on me? (Psalms 13, 1-3). Against the demon of fear in the illness: "It is in you, Lord, my only hope: You, my Lord, will give me the answer" (Psalms, 38, 6).

The saddened monk does not bend the mind to the contemplation and does not uplift a pure prayer to the sky; the sadness is an obstacle to all the best. To be tied foot it is an obstacle to the running, the sadness is an obstacle to the contemplation. The prisoner is tied by the barbarians with iron chains, the sadness is held prisoner by the passions. The sadness indeed has no power unless there are the other passions, like a chain is strengthless, without those who bound. Who is tied by the sadness is subdued by the passions, and the chain is brought as an evidence of the defeat¹².

The monk seeks the quiet, he finds himself fighting against the daemons, who suggest tempting thoughts disturbing the monk and trying to force him into a cardinal sin.

The influence of the monastic theologian is incalculable. The Evagrius Ponticus's eight spirits become the vices in his disciple John Cassian's writings (1965).

Cassian employs Latin names (gastrimargia, filargiria, acedia, cenodoxia) the transliteration from the Greek terms of Evagrius

¹⁰ Evagrius Ponticus, Cent. Gnost. (V, 85).

¹¹ Saint Ignatius of Loyola returns to this issue in the rule n. 332 (rules to know the spirits) of his spiritual exercises.

¹² Ὁ δεδεμένος λύπη νενίκεται υπό παθῶν, καί τόν δεσμόν ἐπιφέρειται τῆς ἡττῆς τόν ἐλεγχον.

But also this development does not mean the disappearance of the demonological vision, which is still widely accepted in seventeenth

century as we can notice in this writing of Paul Ammann.

Qua ratione qui a doemonibus oppressi sunt, aut maleficiis detinentur, à coeteris agrotantibus internoici valeant?

Hoc in loco alienum non fuerit, qua ratione, qui doemonum cruciatu, oppressioneque laborant, quos daemónicos, ac maleficiis affectos vocamus, ad his internosci liceat, qui naturales aegritudines, atque à naturae principis exortas patiuntur, paucis exponere. Nam, quanquam nulla in hoc genere simulatio est, est tantum in affectuum similitudine deceptio aliqua. Neque hanc notitiam à medico plane alienam puto: nam & Hippocrates, (2. Progn. Tex. 4. & 6. De Morb. Sacr.) si quid in morbis divinum inest, illius providentiam discere medicum debere clarissime affirmavit. Nec raro etiam evenit, ut in his morbis dum diu ac frustrà laboramus, salubria medicinae remedia apud vulgus infamemus, ac multorum calumniis nos ipsos praebeamus obnoxios: praestantius nostro nomini famaеque consulturi: si altiores morborum causas ac naturae fines transgredientes, contemplati nos à calumnia tutos redderemus.

Esse autem morbos, quorum natura longè à coeteris distet: & qui daemonum opera excitentur, mihi persuasum jam est, nam & Plato, (II. De Legibus.) sapientissimus Philosophus, cum mirabiles hos affectas prospiceret, corpora, inquit, hominum magicis veneficiis, & cantibus, ac quibusdam nodis laeduntur: positis nimirum cereis simulacris aut in janua, aut in trivio, aut in monumentis parentum. Sed ne Ethici tantum Philosophi placita haec esse existimemus, D. Thomas, (4, Sent, dist. 34.qv&St.3.) autor gravissimus, eos, qui veneficia non esse contendunt, infideles vocat: ac contra sanctorum auctoritates sentire affirmat: hunc deinde omnis Theologorum schola secuta est. Ergo cum verissimum sit, posse daemones hominum corpora divexare morbis: fati etiam constare arbitror, nullum esse aegritudinis genus, quod ab illis induci non possit.

How those who are subdued by daemons or clung by witchcraft can be distinguished from the remaining ill ones.

It will not be out of place here to discuss shortly how those that we call demoniac and affected by witchcraft can be distinguished from those that suffer of natural illnesses, of natural origins. Although in this kind of illnesses there is no simulation, there is nonetheless the deception of the similarity among them.

And I think this is no news for the physician: actually, Hippocrates (2. Progn. Tex. 4. & 6. De Morb. Sacr.) maintained clearly that, even if in illnesses there is something divine, the physician must learn to heal them.

And it is not rare that, while we labour long and in vain in these illnesses, we depreciate among the plebs the healthy remedies of medicine and expose ourselves to the calumnies of many: we will take care excellently of our name and reputation, when, after having contemplated the deepest causes of the illnesses, and those capable of overstep the limits of nature, we will have put ourselves out of the reach of calumny.

I'm already convinced that there are illnesses whose nature is very different from that of the others and that arise from the work of daemons; in fact, Plato (II. De Legibus.) too, wisest among the philosophers, having examined these surprising illnesses, said that the bodies of men are struck from magic poisons, chants, and certain swears, undoubtedly, despite having posed small statues of wax at the entrance, at the trivium and close to the monuments of their parents. But, not to think that these are just opinions of the Ethnic philosopher, the very influential D. Thomas, (4, Sent, dist. 34.qv&St.3.) calls infidels those that maintain that sorcery does not exist; and he declares to think this against the authority of the Saints; these point has then been followed from all the theological schools. Thus, being absolutely true that daemons can oppress with illnesses the bodies of men, I think it is also quite evident that there is no kind of illness that cannot be provoked by them¹³.

Paul Ammann, Leipzig, 1674¹⁴

¹³ When the illness has a supernatural aethiology can be produced directly or indirectly: “ However, I recognize that these diseases have a double difference: indeed they are increased either in the man possessed by the devil, where obviously the devil lodges; or in the man affected only by spells, and whom he (the devil) damages only from outside.”

¹⁴ D. Pauli Ammanni, *De relationibus medicorum*, MDCLXXIV Lypsiæ, Melancholia erotica, Liber secundus, Caput V.

Nonetheless, from other statement can be argued that demonological vision was not univocal, because the vision which is

successful in Middle Ages is not necessarily in contrast with classical humoral theories, nor an exclusively supernatural conception.

3. The acedia in Medieval Christendom

In *De lamentatione animae dolentis* Saint Isidore of Sevilla (560-636). even though in a pastoral dimension, suggests the approaches to follow in spiritual direction of the ones who are in the grip of scruples, understanding the pathological nature of this condition¹⁵, and opposing to the current popular conception that the depressive himself was responsible of his own condition (Vallejo-Nágera, 1994).

In the Middle Ages prevailed a view of the passions related to the religious search for salvation. It is defined sloth (*acedia*, *ακηδία*) the repugnance of soul against labours, efforts, difficulties that you must overcome for reaching and conserving virtues¹⁶. The term *acedia* (*animi remissio*, *mentis enervatio*) indicated, in medieval theology, this kind of torpor of spirit, that obstructed volitional action and hit particularly the ones who led a lonely and meditative life, a condition where:

Per torporem vires et ingenium defluunt.
Because of apathy forces and intelligence decrease.

¹⁵ *Unde et homines, in quibus dominantur sanguis, dulces et blandi (sunt). Malus appellantur a nigro felle, quod Graeci μέλαν dicunt; unde et melancholici dicuntur homines, qui et conversationem humanam refugiant et amicorum carorum suspecti sunt.*

¹⁶ Also Janet (1904) faced the theme of *acedia*, explaining it as a progressive impoverishment of mental energy. Opposed to the *acedia* is the conversion that implies a recovery of faith and a new feeling of power and stability, following a process of recovery of mental energy and impulses. In *Névroses et idées fixe*, 2a ed, (1904) calls it delusional abulia and considers it caused by an intellectual weakness; in order to want an act and to execute it, the mind must have a clear and complete idea of the actions required by the execution of the act itself; now, this capacity would be diminished in individuals affected by abulia, whence the difficulty of carrying out certain acts, even though the intelligence has a general notion of it (Ellenberger, 1970).

In modern psychology it has been defined abulia and it has been considered an anomaly of volition (Ranzoli, 1916).

Isidore, *Soliloqui*, II book

While Evagrius wrote about temptations caused by daemons, which the monk has to fight, Medieval Christendom adopted the doctrine of cardinal sins. Sloth is that condition where a sad feeling nullifies any impulse. *Heedlessness, non-caring state* is *tristitia de spirituali bono*, the sorrow about, or the aversion man feels against his spiritual good. The focus was on weariness, disgust, lack of fervour, sorrow. It is a capital vice¹⁷, capable of leading to the sin. Sloth and depression can overlap.

We have proposed a synoptic scheme in order to compare the elements of continuity and discontinuity amongst the demonologic doctrine, the theological point, the temperaments and mental disorders. It may sound paradoxical, but shows the contaminations of the different perspectives.

¹⁷ As Saint Thomas Aquinas states, in XIII century, capital is the vice (lat. *vitium*, any sort of defect) regarded as a habit inclining one to sin. For him the study of passions should start with the examination of the behaviour. He distinguished biological functions (growth, reproduction) and relational (sensory perception) common in men and animals from cognitive and appetitive faculties exclusive in men. Saint Thomas Aquinas described concupiscence passions (love, desire, joy, hate, aversion, and sorrow) and irascible (hope, despair, courage, fear and anger); the passions were viewed as the causes of various somatic effects.

Table 2-1. Analogies among spirits, chief vices, temperaments and disorders.

| The eights Spirits of Evagrius | Chief vices Saint Gregory (in Latin) | Chief vices Scolastics | Temperaments | Psychiatric disorders |
|--------------------------------|--------------------------------------|-----------------------------|---------------------------|---------------------------------------|
| Κενοδοξία Υπερηφάνια | Inanis gloria | Vaingloria Superbia | Iperthymic | Megalomania Mania |
| | Invidia | Envy | | Dyscontrol |
| Οργή | Ira | Anger | Choleric Irritable | Mania |
| Ακηδία Λύπη | Tristitia | Dejection Acedia | Melancholic Dythymic | Depression |
| Φιλαργυρία | Avaritia | Coverousness | | |
| Γαστριμαργία | Ventris ingluvies | Intemperance Drunkenness | Cyclothymic Sanguineus | Bulimia Alcohol drug abuse |
| Πορνεία | Luxuria | | Iperthymic | Compulsive sex Mania Paraphilia |

In *De Malo* Saint Thomas Aquinas states about accidia:¹⁸:

¹⁸ *De malo (On Evil)* is one of the *Quaestiones disputatae (Disputed Questions)*, more complete treatises on subjects that had not been fully elucidated in the lecture halls. Saint Thomas d'Aquin (1225 or 1226-1274) freely expresses his mind gives all arguments for or against the opinions adopted.

Quaestio undecima
De accidia

Articulus primus.

Quaestio est de accidia. Et primo quaeritur utrum accidia sit peccatum. Et videtur quod non.

1. Virtus enim et peccatum cum sint contraria sunt in eodem genere. Sed virtus est in genere amoris: dicit enim Augustinus in libro *De moribus Ecclesiae* (I, 15) et *XV De civitate Dei* quod virtus est ordo amoris. Cum ergo accidia non sit in genere amoris sed magis sit tristitia quaedam ut Damascenus dicit, videtur quod accidia non sit peccatum (omissis).

5. Praeterea. Damascenus dicit in II libro quod accidia est tristitia aggravans. Sed aggravatio magis videtur esse poena quam culpa. Ergo accidia non est peccatum sed magis poena (omissis).

Sed contra

Est quod Gregorius *Moralium* (XXXI, 45) accidiam inter alia peccata connumerat, et similiter Isidorus in libro *De summo bene* (IV, 40).

Responsio

Dicendum, quod sicut ex Damasceno patet, accidia tristitia quaedam est, unde et Gregorius in *Moralibus* (XXXI, 45), loco accidiae quandoque ponit tristitiam (omissis).

Accidia autem est taedium vel tristitia boni spirituali set interni, ut Augustinus dicit super illud Psalmi “omnem escam abominata est anima eorum”; et ideo cum internum et spirituale bonum sit vere bonum et non possit esse malum nisi apparens, in quantum scilicet contrariatur carnalibus desideriis, manifestum est quod accidia de se habet quod sit peccatum.

Sed considerandum quod accidia cum sit tristitia potest dupliciter considerari: uno modo secundum quod est actus appetitus sensitivi, alio modo secundum quod (est) actus appetitus intellectivi, qui est voluntas: omnia enim huiusmodi affectionum nomina secundum quidam quod sunt actus appetitus sensitivi passiones quaedam sunt, secundum vero quod sunt actus appetitus intellectivi sunt simplices motus voluntatis. Peccatum autem per se proprie est in voluntate ut dicit Augustinus. Et ideo si accidia nominet actum voluntatis refugientis internum et spirituale bonum, potest habere perfectam rationem peccati, si vero accipiatur prout est actus appetitus sensitivi non habet rationem peccati nisi ex voluntate, in quantum scilicet talis motus potest a voluntate prohiberi: unde si non prohibetur habet aliquam rationem peccati sed imperfectam.

Question XI
On Spiritual Apathy (Acedia)

First article,

Is Spiritual Apathy a Sin? It seems that spiritual apathy is not, for the following reasons:

1. Virtue and sin, since they are contraries, belong to the same genus. But virtue belongs to the genus of love, for Augustine in his works *On Church Customs* (I, 15) and *City of God* (XV, 22) says that virtue is the right ordination of love. Therefore, since spiritual apathy does not belong to the genus of love and is rather a sadness, as Damascene says (*On Orthodox Faith* II, 14), it seems that spiritual apathy is not a sin (omissis).

5. Damascene says in his work *On Orthodox Faith* (II, 14) that spiritual apathy is oppressive sadness. But oppression seems to be a punishment rather than a sin. Therefore, spiritual apathy is punishment rather than sin (omissis).

On the contrary

Gregory in his work *Morals* (XXXI, 45) lists spiritual apathy with other sins and so does Isidore in his work *On the Supreme Good* (IV, 40).

Answer

As Damascene makes clear, spiritual apathy is a certain sadness (*On Orthodox Faith* II, 14) and so also Gregory in his work *Morals* (XXXI, 45) sometimes substitutes sadness for spiritual apathy (omissis).

And spiritual apathy consists of boredom or sadness regarding a spiritual and interior good, as Augustine says on Ps: 107:18, “Their souls abhorred every kind of food” (*Expositions on the Psalms*, 107, 6). And so since interior and spiritual good is truly good and can only be apparently evil, namely, insofar as it is contrary to carnal desires, spiritual apathy as such is evidently sinful.

But we should note that we can consider spiritual apathy in two ways, since it is sadness: in one way as the act of a sense appetite; in the second way as the act of the intellectual appetite, that is, the will. For all names of such dispositions as indeed acts of sense appetite designate emotions, but as acts of the intellectual appetite designate only movements of will. And sin intrinsically and in the strict sense belongs to the will, as Augustin says (*On True Religion*, 14, 27). And so spiritual apathy, if it should designate an act of the will avoiding an internal and spiritual good, can have the complete nature of sin. But if we should understand spiritual apathy as the act of a sense appetite, it has the nature of sin only from the will, namely, insofar as the will can forbid such a movement. And so if the movement is not forbidden, it has some nature of sin but not the complete nature¹⁹.

¹⁹ In the translation by Richard Regan.

In Saint Thomas's writings, then, there are two types of sloth: one is the sloth, act of the sensory appetite, suffered by the man as a pain, a sadness taking possession of the human being without the volition playing an important role; the other one is the sloth, act of the intellectual appetite.

The sin is connected with the intentionality, when the man acts by a motion of the volition. Making a comparison between this approach and the current way of considering the depression, the assessment of the intentionality is still the central point.

In front of a severe depressed the clinician is aware to consider how much the patient can be free and how much he is conditioned by the illness, by a humoral biological alteration.

There are two specular mistakes: to burden the melancholic patient with a responsibility that he has not, with effect of increasing the feeling of guilt, but also to relieve of responsibility a person that can assume a choice, letting himself to indulge in the cradle of the illness.

In effect the clinician refers himself to these two poles in the decision of the interventions to propose and in the choice of the times in which to suggest them: when the unique possible intervention is a somatic intervention, when a psychotherapeutic pathway is proposable with the active participation by the subject.

In the classical distinction, among endogenous depressive syndromes, more severe, the patient feels entirely at the mercy of the disease (suffered as a punishment): in the melancholy, in the depressive psychosis, in the depression with olothymic features, pictures where the volition is entirely nullified, where the external stimulation to the change is worthless, when even it could be deleterious.

Whereas the less severe forms, in the past generally considered reactive, psychogenic, seem more susceptible to the behavioural suggestions, to the eliciting of intentional, residual volitional elements.

Thereby, also the past experience of the guilt can be interpreted in a differentiated key, whereas in the psychosis it could not gain an understandable purchase for the features of passivity and absence of the volitional component in the subjects experiencing this disease (like the sloth resulting from an act of the sensitive appetite), whereas the same psychopathological nucleus would be more understandable in the non-psychotic forms, where a certain intervention of the volition would make the subject partially originator of his suffering, explaining those feelings of guilt that should trouble the one who commits a sin of sloth, act of the intellectual appetite.

About the anger, still in *De Malo*, Saint Thomas Aquinas wrote:

Quaestio duodecima
De ira

Articulus primus

Quaestio est de ira. Et primo quaeritur utrum omnis ira sit mala vel aliqua ira sit bona.

Et videtur quod omnis ira sit mala (omissis).

Sed contra

1. Chrysostomus *Super Matth.*: "Qui sine causa irascitur reus erit, qui vero cum causa non erit reus: nam si ira non fuerit, nec doctrina proficit nec iudicia stant nec crimina compescuntur". Ergo aliqua ira est bona et necessaria (omissis).

Ut ergo circa hoc quid sit verius videatur, considerandum est quod in ira sicut et in qualibet alia passione duo possumus considerare: unum quod est formale, aliud quod est quasi materiale. Formale quidam in ira est id quod est ex parte animae appetitivae, quod scilicet ira sit appetitus vindictae,

Question XII
On Anger

First article.

Is All Anger Evil, or Is Some Anger Good?

It seems that all anger is evil (omissis).

On the contrary:

1 Chrysostom says: "Those who become angry without cause will be guilty, and those who become angry with cause will not. For if there be no anger, teaching is bootless, the judicial process undermined, and crimes unchecked (John Chrysostom (Pseudo), *Unfinished Work on Matthew*, home, II. Therefore, some anger is good and necessary (omissis).

Therefore, in order to perceive what is closer to the truth in this matter, we should note that we can consider two things regarding anger or any other emotion: one the formal element, as it was; the other the material element, as it was. The formal element in anger indeed concerns the appetitive soul, namely, that anger desires vengeance, and the material

materiale autem id quod pertinet ad commotionem corporalem, scilicet quod ira sit accensio sanguinis circa cor.

Ira igitur si consideretur secundum id quod est formale in ea, sic potest esse et in appetitu sensitivo et in appetitu intellectivo qui est voluntas, secundum quam aliquis potest velle sumere vindictam: et secundum hoc manifestum est quod ira potest esse et bona et mala.

As regards the anger, Saint Thomas distinguishes a positive anger, sustained by an adequate motivation, from a negative one, which is located in the intellectual appetite, more devoid of purpose. A material aspect, “an alteration of the body”, is distinguished from a formal aspect (deriving by the appetitive soul). The characteristic features seem to be the intention, the purpose and the target of the rage.

Observing the same topic from a different view of a behavioural kind we see that there are expressions of aggressiveness that are positive for the individual and for the survival (for example the protection of the offspring) and that, on the one hand are biologically determined toward the conservation of the species, and on the other hand, from a moral point of view, are good and supported by correct intentions.

As to the anger, and the psychopathological dimension that is implicit in it, the aggressiveness and the manifestations that characterize it refer to the maniacal pole of the couple melancholy-mania. As a matter of fact, the nature of maniacal behaviour appears faceted in the alternance of various phenomenal expressions, variable in the sparkling succession of different clinical aspects; from a primary nucleus from which take shape and delineate the multifarious psychopathological aspects, identifiable essentially through the increase of vital energy and counter-polar to the depressive one, derives and explodes the whole range of symptomatic aspects, characteristic of the manic phenomenology. In the multiplicity of sub-dimensions, in which is articulated the dimension of mania, can be easily pointed out the anger (mania, *μανία*, according to the

element belongs to a bodily disturbance, namely, that anger increases the circulation of blood around the hearth.

Therefore, if we should consider anger by its formal element, then it can belong both to a sense appetite and the intellectual appetite, that is, the will, insofar as one can will to take vengeance. And so anger can evidently be either good or evil.

Greek etymology means anger and fury) and the aggressiveness (Goracci et Al., 2004).

Even though the mania, more easily than melancholy, appears to be a condition in which the subject is prey of a psychopathological alteration, such as to greatly prejudice the possibility and liberty of choosing again a behaviour, of taking a stance, of modifying past experiences, the presence of dimensions of mania understandable alternatively as acted and expressed according to a volitional act or suffered as uncontainable or unpostponable drive makes also this alteration of mood assimilable to its depressive counterpart and divisible in different forms with a various involvement of volition.

Saint Thomas’s vision recovers the Aristotelian concept²⁰: health is not a blessing that is always preserved but the result of a continuous attention to a precarious and unstable equilibrium (Di Fiorino and Pavesi, 1994). It requires temperance (in Latin *temperantia*, in Greek *σωφροσύνη*)²¹ “so

²⁰ Saint Augustine also affirms in *De civitate dei* (I, 24-25): “the virtue itself indeed that is not one of the natural principles, as it joins to them for the education, and it claims the primacy among human gifts, what else does it make if not a continuous struggle against vices, not the external but the internal ones: not the vices of someone else but exclusively the our and personal ones? It makes this especially with that virtue in Greek so called *σωφροσύνη* and in Latin *temperantia*, with the carnal lecheries are restrained, so that they don’t drag the mind in the agreement with any misdeed”.

²¹ *Temperantia*, in a literal meaning ordering wisdom, derives from *temperare* (to temper) (in Latin on the one hand to restrain and on the other hand to loosen), common matrix also of the term *temperamentum*. In the light of this definition *temperantia* assumes a role

deeply linked to a medical concept of temperament (in Latin *temperamentum*), to moderate and support that fluid and extremely fleeting balance, in which we must preserve and carry out our wellbeing. In this meaning Hippocrates could define κυβερνήτης, helmsman the physician” (Schippergers, 1985).

It is according to the catholic doctrine about capital vices that Dante Alighieri (1265-1321) places slothful persons in Hell, wallowed in slime, singing this hymn:

of discipline, rather than always a role of brake, of the natural inclinations (temperaments).

*Fitti nel limo dicon: "Tristi fummo
ne l'aere dolce che da noi dal sol s'allegra,
portando dentro accidioso fummo:
ora ci attristiam ne la belletta negra".
Quest'inno si gorgoglian nella strozza,
ché dir nol posson con parola integra.*

*Mired in slime, they moan, "We were morose
In the sweet air made cheerful by the sun;
We bore within ourselves the torpid vapors:
Now morbid we are made in this black mud."
This canticle they gurgle in their gullets
Since they can't sound it with full syllables²².*

Dante, The Divine Comedy, Hell, *Inferno*, canto VII, versi 121-126²³

²² In the translation by James Finn Cotter.

²³ Slothful persons are stuck in the moor and sigh, making the water bubble in the surface. Because of the law of retaliation the ones who during life were not able to profit from the beauty of the world, are now immersed in slime and can not enjoy neither the language nor the sight of the air.

The *Inferno* shows us also coleric, these naked sinners who chose anger. It is noteworthy that Dante places coleric near

slothful in the fifth circle, as if he draws two opposite vices.

*E io, che di mirare stava inteso
Vidi genti fangose in quel pantano,
ignude tutte con sembiante offeso.
Queste si percotean non pur con mano
Ma con la testa e col petto e coi piedi,
troncandosi co' denti a brano a brano.
Lo buon maestro disse: " Figlio, or vedi
L'anime di color cui vinse l'ira;
e anche vo' che tu per certo credi
che sotto l'acqua ha gente che sospira,
e fanno pullular quest'acqua al summo,
come l'occhio ti dice, u' che s'aggira".*

*And I, standing there to stare intently,
Saw in that morass people smeared with mud,
All naked, their faces lined with rage.
They beat each other not just with their hands
But even with their heads and chest and feet
And with their teeth ripped each other to pieces.
My own good master said, "Son, now you see
The souls of those whom anger overpowered.
I also want you to accept for certain
"That under the water there are people sighing
Who make the surface of the water bubble,
As your eye tells you whichever way it turns."²⁴*

Dante, The Divine Comedy, Hell, *Inferno*, canto VII, versi 109-120

²⁴ Ibidem

The *Inferno* offers us sinners who have become the sin that they chose instead of its opposite virtue.

The theological observation about the sloth and the difference between the sloth and the melancholy is important in non-reductionistic perspective, to understand what spaces remain to the freedom of choice of the melancholic man (or prey to the maniacal excitement).

Evagrius Ponticus in the fourth century named and identified *acedia* as a sin caused by the attack of the demon of *acedia*. Then from Cassian to Thomas Aquinas *acedia* is a sinful condition of spiritual apathy, boredom with self, God. It is insidious as marks a rupture of the self from the divine ground, determining despair and suicide.

Saint Hildegard of Bingen (1098-1179) stressed the loading on descendants of the *poena Adae*. After the original sin, “when Adam violated the law, the bile was changed in sadness and melancholy in the blackness of impiety”.

As a matter of fact, when Adam, having knowledge of the good, did the evil, eating the fruit, in the vicissitude of his transformation, the melancholy appeared in him; the melancholy does not exist in the man, both awaking and sleeping, without the temptation by the Devil; and the sadness and the hopelessness, that the man received at the point of transgression, arise from the melancholy. As a matter of fact, at the same time when Adam violated God’s precept, the melancholy coagulated in his blood as when, blowing out the light, the splendour faints and the tow keeps on burning and steaming, exhaling a rank smell. And likewise it took place in Adam because, when the splendour was darkened in himself, in his blood the melancholy coagulated, from which arise the sadness and the hopelessness, because Satan, when Adam fell, moulded the melancholy, that sometimes makes the man doubtful and incredulous. But, as the form of the man is so tied, that he can not rise exceedingly, he fears God and he is sad, and in such a sadness often he loses heart, because he does not believe that God is looking after him.

Hildegard of Bingen, *Causae et cura*

Only a doctor in medicine can relieve the suffering of these persons and of all his

descendants. Saint Hildegard recognizes that the natural condition is explained by the doctrine of the humours, even if there can be a supernatural divine intervention.

The humours are four; the two dominants are named phlegma, whereas the two others, that follow them, are named mucus (..) And if in a man either of the mucus spreads itself limitless and becomes overabundant, the other humours cannot remain quiet, except in those men permeated by the grace of God in the strength, as Samson, or in the sapience, as Salomon, or in the prophecy, as Jeremy or – among the pagans – as Plato and his peers. And whereas the other men go mad, they will be very strong and in their integrity, because the grace of God enables them to have certain mutability and to live now in the infirmity, now in the health, now in the fear, now in the courage, now in the sadness, now in the joy.

She distinguished the temperaments painting two different pictures of the men and of the women, as we can see comparing the phlegmatics and the melancholics.

Indeed, when in these [the phlegmatic] men the various humours of the phlegma go up, excited by the immoderateness in eating and in drinking, or by the vain happiness, or by the indignation or by the fury, or by the uncontrolled lust, they begin boiling, like the water in a cauldron put over the fire, and emanate a kind of inflamed drops, that penetrate in the flesh, in the blood and in the veins like arrows, troubling these men with the same pungency with which acrid smoke disturbs the eyes. And the ones who have such a constitution often are burning with fury, but they forget it very quickly, because they love the benevolence, like when the sun appears in the bud of a storm. So, due to this constitution, these men are inclined both to the fury and to the cheerfulness; but they do not reach the full oldness.

These [phlegmatic] women have a severe and brown face, they are operose and practical, they are quite virile by nature. During their menses the trickles of blood are neither too abundant nor too exiguous. As to the progeny they are quite fertile, having big veins, and they conceive easily and/or because their uterus and their entire womb are able-bodied. They appeal the men and dominate them, and because of that the men love them. If they desire to abstain from the men, they can abstain from the union with them, without being too much debilitated, unless somewhat. However if they abstain themselves from uniting with the men, they will turn

intractable and disagreeable in their behaviour; on the contrary, if they will unite themselves with the men – because they do not desire to abstain themselves - they will become immoderate and lavish on the passions, as the men.

Towards women, they are like animals, unrestrained like vipers...; but they are sour, greedy and foolish, excessive in passion and without measure with women, like donkeys. If they are plenty of passion, they easily incur in the insanity of the mind. Nonetheless, the decent abandon they should feel about women, it is tortuous, bothering and lethal in them, as if they were ferocious wolves. Some of them, due to their strong veins and to the marrow, that burns robustly, they stay gladly with women, according to the human nature. Others, instead, can do without the feminine sex; because they do not love women and neither they want to possess them, on the contrary, in their heart they are savage as lions and behave like bears. Yet, they are practical and clever in their businesslike matters and the willingly apply to them²⁵.

Moreover, there are women with weak flesh, with thick veins and normal bones, with the blood more mucous than sanguineous and with black and grey coloured face. These women are frivolous and flighty in their thoughts, afflicted by troublesome illnesses, and moody, so that sometimes they are oppressed by the melancholy. During the time of the menses, they lose a great deal of blood and they are sterile, because their uterus is weak and fragile. Therefore, they cannot receive, nor hold, nor warm the semen of the man, and therefore they are stronger and more cheerful without a husband; on the contrary, if they are married, they become unhealthy. The men avoid and shun them, because these women do not turn to

²⁵ Cum mulieribus velut animalia et ut viperae incontinentes sunt...; sed amari et avari et insipientes sunt et superflui in libidine ac sine moderatione cum mulieribus velut asini; unde si de hac libidine interdum cessaverint, facile insaniam capitis incurrunt, ita quod frenetici erunt. Et cum hanc libidinem in coniunctione mulierum exercent, insaniam capitis non patiuntur; sed tamen amplexio... tortuosa atque odiosa et mortifera est velut rapidorum luporum. Quidam autem ex istis... libenter cum feminis secundum humanam naturam sunt, sed tamen eas odio habent. Quidam autem femineum sexum devitare possunt, qui feminas non diligunt nec eas habere volunt, sed in cordibus suis tam acres sunt ut leones, et mores ursorum habent; sed tamen utiles et prudentes sunt in operibus manuum suarum atque libenter operantur...

them pleasantly, and they do not love much the men, and if they, at one time, could feel the pleasure of the flesh, that would disappear in them very quickly. But a few of these women, who have a vigorous and sanguineous husband, give birth at least to a son, when they are already mature, being, for example, fifty years old.

Instead, if they live with naturally weak husbands, they are not made pregnant at all by them, but they remain sterile. If the menses fail too early, sometimes they suffer from gout and from swollen legs, or they are hit by mental illness, induced by the melancholy or by backaches; or suddenly their body swells up, because the putrefaction and the filth, from which their bodies should have been purified through the menses, remain closed in them; and if they are not aided in this illness, freeing them either through the help of God or through the medicine, they die soon.

Saint Hildegard gives us a vision of the melancholic man that in part seems to anticipate the *typus melancholicus* by Tellenbach (1961): it is a person precise, scrupulous, respectable, self-exigent, with a particular inclination to consider things very seriously. Such typology of individual shows close analogies with the peculiarities of the candidate to the mania (Giannini e Castrogiovanni, 1977). As a matter of fact, the description quoted above presents a series of characteristics which refers to maniacal phenomenology or, at least, to the atypical symptomatology of the depression: elements such as the voraciousness, the impulsiveness, the fierceness, the frenzy, all aspects which appear to be tinged with an increased vital drive, and which have very little of the *aboulia* of the melancholic proper.

More and more, after all, not least because of the therapeutic implications, we assist to an emphasizing of the counterpolar aspects within the depressive phenomenology, with a widening also of the range of bipolar disturbs and a major highlighting of agitated, atypical or «mixed» depressive forms. We therefore underline the actuality of this excerpt by Saint Hildegard, who, describing the melancholic man, emphasizes a multiplicity of counterpolar and atypical aspects²⁶.

²⁶ Recent data show that the profile of depression among men differs from that among women, the male pattern typically being more characterised by

To have differentiated the clinical descriptions by gender appears to be another element of actuality, in the light of the growing interest in the epidemiological and genetic applications within the psychiatric field²⁷. In fact, already since a certain number of years, the research has dealt with gender differences within the depressive illness and the Mood Disorders in general, initially taking an interest in the clinical aspects of the phenomenon, and more recently in the bio-hereditary ones.

The Hippocratic and Galenic traditions became influent in Europe through the Arabic translations (many Authors were Syrians and Persians). We are quoting Avicenna, Averroes and Constantine the African.

irritability, aggressiveness, acting out, antisocial behaviour and alcohol abuse, and reduced impulse control and stress tolerance. Predisposition to affective disorders, suicide and alcoholism seems to be genetically determined. These syndromes, which are not easily recognised and are seldom properly treated or prevented, seem to be related to central serotonin deficiency and hypercortisolaemia (Rutz et Al., 1999).

²⁷ Recently, several Authors have considered the agitated forms of depression, supposing an eventual collocation within the mixed states or the bipolar spectrum. Maj et Al. (2006), report that “the diagnosis of agitated major depressive disorder is not uncommon and has significant therapeutic and prognostic implications. The subgroup of patients with at least 2 manic/hypomanic symptoms may suffer from a mixed state and/or belong to the bipolar spectrum, has a higher rate of family history of bipolar I disorder, a higher score for suicidal thoughts during the episode, a longer duration of the episode, and a higher affective morbidity during the observation period”. Koukopoulos & Koukopoulos (1999), affirming that “agitated depression is no longer considered a mixed state in the DSM system”, assert that “the main symptoms of *melancholia agitata* (agitated depression) are depressive mood with marked anxiety, restlessness, and often delusions. In other cases, psychic agitation and racing or crowded thoughts prevail alongside anxiety and depressed mood. The mixed nature of these symptoms has been discussed and new diagnostic criteria proposed, including those syndromes without marked restlessness but with evident psychic agitation and racing or crowded thoughts. It is suggested that all the varieties of agitated depression be called mixed depression, with the following diagnostic criteria: A. Major depressive episode B. At least two of the following symptoms: 1. Motor agitation 2. Psychic agitation or intense inner tension 3. Racing or crowded thoughts”.

Avicenna ²⁸ developed a medical system that combined his own personal experience with that of Islamic medicine, the medical system of Galen, Aristotelian metaphysics, and ancient Persian and Arabic medicine. The Author developed the doctrine of four forms, which enjoyed great favour until seventeenth century. He described more pathological disorders than types of temperaments. The melancholia derives from combustion of the four elements, when black bile or “natural melancholia”, phlegm, yellow bile and blood burn.

²⁸ Avicenna (Ibn Sina) was a Persian Muslim physician, astronomer and alchemist. He was born around 980 in Afshana near Bukhara in Khorasan (now part of Uzbekistan), and died in 1037 in Hamadan (now in Iran).

Et dicimus quod cholera nigra faciens melancholiam, cum est cum sanguine, est cum gaudio et risu et non concomitatur ipsam tristitia vehemens. Si autem est cum phlegmate est cum pigritia et paucitate motus et quiete.

If black bile, which provokes melancholy, is blended with blood, is together with joy and laugh, it does not go along with deep sadness; but if it is blended with phlegm it goes along with sloath, lack of movement and quiet.

Liber canonis, III, 1, 4 cap. 19, fol. 2051.

Also Averroes (Ibn Rushd, 1126-1198) considered by Klibansky et al, (1964) to surpass the doctrine of humours, as he would have attributed melancholia not directly to the

dyscrasia of humours but to the effect of humours on brain faculties, seems to us to remain within the classical concepts.

Si ex cholera, tunc vocatur proprie mania.

If melancholia comes from yellow bile, then it is called fury.

Constantine the African²⁹, in *De Melancholia*, defined the eight Galenian combinations of qualities *complexiones extra temperantia* or *intemperatae*, so less balanced combinations. The temperament may be congenitally harmed, and so predisposed to melancholia. The Author advised patients with fluctuating emotional states to avoid excessive ingestion of foods and drinks, which can contribute towards melancholia. Purgatives and sternutatives were recommended in order to digest³⁰.

In order to re-establish a balanced state it may be useful to share activities associated with warm and moist in correcting a disorder due to cold and dry.

²⁹ Constantine the African (Latin Constantinus Africanus) was a Benedictine monk of the eleventh-century, translator of Greek and Arabic medical texts. Native of Carthage (c.1010), then under Arab rule, joined the Schola Medica Salernitana, before retiring in 1076 to Monte Cassino. He contributed, translating various manuscripts, reintroduced Greek medicine to Christian Europe.

³⁰ In Medieval Arabic medicine the intelligent and consistent control maintains in balance the true “natural things”, above all the mix of humours, the temper of the body. Sexual hygiene was directed prevalently to the man, but a regular sexual life is suitable for a woman too. Sperm develops from the best blood: if a man squander it, his body dries and becomes

trembling, but if the sperm is not excreted, its accumulation in the body makes this one inert and in unfavourable conditions the spirit melancholic. For Arabic doctors copulation was a remedy against melancholy: so it could be read in the writings by al-Mayjusi (Koelbing, 1985).

Table 2-2. *Complexiones extra temperantia* according to Costantine the African

| | |
|------------------------------------|--|
| Galenian simple balanced mixture | Warm: Intellectus bonus, homo multum facundus, mobilissimus, audax, iracundus, libidinosus, multum appetens et cito digerens |
| | Cold : Contraria e contrario |
| | Dry: only physiological characteristics |
| | Moist: only physiological characteristics |
| Galenian composed balanced mixture | Warm and Dry: Homo intellectualis, audax, appetibilis at digestibilis, maxime tamen grossi cibi, libidinosus |
| | Warm and Moist: only physiological characteristics |
| | Cold and Moist: Intellectus durus, homo obliviosus, animosus, neque multum oppetens neque cito digerens, non libidinosus. |
| | Cold and Dry: only physiological characteristics |

Quia quicumque humores in quantitate
sive in qualitate praevalent ex necessitate
morbidum facient.

Poiché quando un umore in eccesso, quale
esso sia, per quantità o qualità prende il
sopravvento, necessariamente rende malato il
corpo.

Teorica Pantegni, I. 21

4. Magic and Esotericism in the Renaissance

During the Renaissance we have a return to the classic biological conception of affective disorders; melancholy has removed from the group of diseases depending on supernatural causes and once again assigned to somatic diseases. We come back to the ancient theory of humours, to the more recent theory of the elements and to other speculative principles, like the interest for alchemy whose knowledge results inseparable from the scientific knowledge till the modern age.

The doctrine of four temperaments is at the foundations of the representation of the passions that is characteristic of the Renaissance art.

We present the thought of an exponent of the Renaissance, Johannes Crato von Crafftheim (or Krafftheim) (1519-1585). According to Hanegraaf (2001) and von Stuckrad (2005) Johannes Crato von Crafftheim indeed cannot be regarded as marginal figure of the Esotericism and of Esoteric Counter-culture in many esoteric currents belonging to the field of religious options, esoteric groups connected to the Hermetic philosophy³¹, ritual power (Theurgy, magic).

The bile.³²

The bile instead increases the heat, almost excites the motion, makes the distribution of the humours easier and helps the excrement's expulsion.

Melancholy.

The contribute of the black bile is almost opposite to these effects of the melancholic humour. It constitutes, in fact, almost a brake to two warm humours, that is to say the blood and

the bile and allow the heat and the spirit to be enclosed in the remaining mass of the blood and continue to accomplish their task (as long as this humour is immaculate).

The catarrh.

According to Hippocrates, there are then the function of the catarrh: to feed the very cold parts, to moisten the ones in motion, not to obstruct them with dryness as you can see in the joints and in the language. Finally, if the nourishments fails, to fill the parts with blood. So it occurs the analogy of four humours with four elements: the bile, if it is warm and dry, it is similar to fire, the blood, if it is warm and wet is close to the air, the catarrh, cold and wet is like water, the melancholic humour, cold and dry, is like the earth.

And thus, he maintains that the humours take origin from these four bodies, or elements. And to them, pro rata, correspond the four ages of man and the seasons as well: the humours develop, decrease, modify, according to age and the interchange of seasons. He teaches that in the early youth and in spring (actually, this season corresponds to youth, as for the warm and wet temperature) the blood mostly develops, then the catarrh; instead, firstly it decreases the melancholic humour, then the bile.

In summer and youth, instead, in the mature age of the bodies, warm and dry, in the first place there develops the bile, then the blood, while it decreases the catarrh and, less, the melancholic humour. In old age and in autumn, when the temperature becomes cold and dry, it develops at first the melancholic humour, then the mucus, and it decreases above all the blood and then the bile. In the outmost oldness and then in winter it develops mostly the catarrh, then the melancholic humour, while the blood and the bile, weaken. Hippocrates teaches the physician to keep in mind this, about the humours, as well as about the other fundamental element in the substance of the body.

The different kinds of spirit are the third fundamental elements pertinent to the shaping of the body and their origin is what we define as natural.

Natural spirit.

This in fact is a living substance, as living is, on the other hand, the animal one. Instead, the

³¹ Hermeticism derives from Hermes Trismegistus, a syncretic Egyptian-Greek deity and legendary alchemist.

³² *Johannis Cratonis à Kraftheim, Consiliorum, et epistolarum Medicinalium. MIKPOTEXNH seu parva ars medicinalis Francofurti, MDCLXXI. (Liber tertius, p. 328, liber VI p. 510-511, liber septimus pp. 1-14.)* (See pag...of the anthology for the original text).

natural spirit is nothing but a subtle vapour that springs from the blood, and the physicians place in the liver, as its natural dwelling in which the blood is generated.

I do not like, at this point, while I read the books of Hippocrates, to face the question if the blood has its source in the heart, in the liver or in the veins. As far as regards the opinion of Hippocrates, I recall this: that this spirit, exonerated from the blood mass, as I said before, it melts in the blood and the effectiveness of its action is double: one in the heart, from which it originates the multiplicity of the effects, the other from the blood, where the motion and the beating of the arteries, and the spreading of the vital heat in the whole body arise, with whom, obviously inborn in the single parts, is fed and hastened.

As for what concerns the inborn heat, which I said to be fed by the spirit and the one that dwells in all the parts of the body with a primitive dampness, is the author of all natural actions. And about this is not worth using too many words. But I mention at least this: that Hippocrates in Epid 5 calls it *psuchao* because it continuously supports the body with its mediocrity: the illness happens if in the whole body or in parts of it, it exceeds the right proportion, so when it inflames or gets close to the nature of fire, it generates fever and due to its superior characteristic is very distant from that floating heat, which we call spirit or vital heat.

Hippocrates says that the greater amount of this heat is found in what grows. It is filled, in fact, of this primitive dampness to which this heat is bound. Therefore, although this decreases with the coming of age, in the same way, this heat goes on extinguishing itself. And Hippocrates highlights this, when he maintains that mainly the young ones, more than the old, are affected by high fevers, because in the old ones this heat is weakened and is about to extinguish itself. And it is possible that the heat originated from the hearts, seems weaker in old people and almost extinguished.

The animal spirit.

But all this requires a richer explanation. The liquid heat, in fact, or rather the spirit, when is brought to the brain through the arteries, there it tempers and acquires, so to say, a divine force, and is called animal because is useful to the vital activities: to sensitiveness and motility. Aristotle says: "It seems that the body has been given to man to mitigate the heat of the body when the vital spirits reach in it their right measure and subside". Therefore, always Aristotle, in *Physics*, maintains: "The soul becomes wise with quietness. And from this we understand which is the origin of the spirits or of the single actions, and, though at first it has sprung from the semen or the blood, the vital

and animal spirit have a natural grounding. Then the spirits increase the subsequent element of the faculty, better still, the faculty itself".

Consilium CVII.³³

I would rather discuss with a learned physician, with a long experience in medical treatments, who has carefully analyzed the nature of the patient and of his illnesses, than reporting something myself, mainly because it seems that this illness presents a lot of troubles, but since this is not allowed to me, I will set forth shortly my advice.

For as far as I understand from what I remember, even if the conditions seem to be different, nevertheless they can refer to this kind of illness which Galen, resting on Diocles, defines hypochondriac or flatulent Melancholy.

From what springs the hypochondriac melancholy?

This occurs when the veins in the middle of the liver and of the ventricle, the enflame, so to speak, with a certain warmth and when not only the veins, but also the nearby parts suffer of a certain occlusion. That's why some humours partly not well digested, partly thickened, gather, and from them harmful and ill fated vapours, drawn to the brain, determine the symptoms of melancholy and not rarely catarrhs and difficulty of breath.

Furthermore, they generate even in the hypochondriac ones a lot of breaths, from which derive whispers, borborygmus and a sense of weight to the chest.

Beginning of the illness

Sometimes this disturb begins from the liver, some other from the spleen, and it is always transmitted to the the stomach, which suffers from dyspepsia and, not rarely, its opening is damaged. It suffers, even if the food is well digested, being a distribution of the chyme and, once the disease has grown, it provokes a lot of pain, so that the ill ones despair about their health, make horrible dreams, imagine plenty of things, and are sometimes taken by a cold sweat and a lot of salivation.

The cure of hypocondria.

This is the characteristic of the illness that, once removed the causes, can be cut out. Then, firstly in this physical condition the nourishment, most of all, must be taken into account and if this will not be observed, the hope in the therapy will be dubious. It is difficult to cure in dyspepsia. On

³³ MORBI VIRORUM ET JUVENUM. D. Joannis Cratonis. Consilium CVII. Liber VI, pagg. 510-511.

the contrary, it increases this disease. And so we try and eat foods that taste natural, as meat, chicken, pigeons and game. Diet.

Get rid, instead, all the marshy animals, like ducks, geese, deer, swine either wild or tame. He will not eat macerated flesh, and in no way salted or excessively spiced. He must refrain from vegetables and plants, although he will be

able to eat turnips, provided they are well done and flavoured, and artichokes. Leave out apples, but he can eat cooked pears. He should not mix many foods, but be satisfied with two potatoes, obviously of boiled or roasted beef. Dishes macerated in wine. Before lunch he will assume plums or herbs that previously have been macerated in wine or water.

In melancholia hypochondriaca, qua tentabatur vir complexionis Melancholiae annorum quadraginta. ³⁴

D. HIER. CAPIVACCII

Consilium I.

Quamvis multa sint vitia de quibus conqueritur vir egregius, nullum tamen ets, de quo magis esse sollicitus debeat, quam de melancholia hypochondriaca, cum inde omnia sere mala prodire videantur. Hoc autem symptoma cum sit imaginatio depravata, necessario depravantur frustrata facultate imaginatrice, ob permixtionem vaporis melancholici cum spiritibus animalibus, cujus vaporis copia vigiliae quoque oboriuntur.

Causa hypochondriaca.

Hic autem vapor non in capite generatur, sed ab hypochondriis sursum in caput attollitur.

Generatur autem in hypochondriis ex materia melancholica, quae cum sit opus quoddam praeter naturam, necessario sequitur sanguificationem, tum labefactata facultate ob intemperiem calidiorem, tum impedita propter obstructionem venatum jecoris, quae obstruuntur à materia pituitosa, crassa, dura, lenta & viscida, quae sequitur laesam ventriculi chylicationem, labefactata facultate ob intemperiem frigidam, e non frustrata ob errorem externum, ob pravam scilicet vivendi rationem, Unde reliqua quoque symptomata excitantur.

Haec autem cum ita se habeant, curationis ratio sic erit instituenda, ut materia quae facit obstructions, emolliatur, attenuetur, incidatur, ac detergatur, universum corpus purgetur & evacuetur. Iecur refrigeretur, & ventriculus calesiat atque universus corporis ambitus attemperetur. Interim tamen virus non erit negligenda. Quod negotium quam arduum ac difficile futurum sit, norunt illi, qui huiusmodi vitia, & praesertim inveterata tractarunt. Quod si huic difficultati accedat inobedientia, nihil certi possumus polliceri. At si optimis praeceptis parere voluerit, mulra quidam polliceri possumus & severa prostabimus. De cujus

In the hypochondriac melancholy, from which is affected a 40 year-old man, of melancholic nature.

D. HIER. CAPIVACCII.

Advice I.

Although many are the evils of which a decent man complains, yet, he mostly has to worry about the hypochondriac melancholy, since from it, nearly all evils seem to originate. Then the symptom is this, when the imagination gets twisted, and it necessarily shows when the imaginative faculty breaks down because of the mix of melancholic vapour and vital spirits, and from the plentiness of this vapour, the waking state is dimmed too. Thus, this vapour is not born in the brain, but from the precordis it climbs up to the head.

Hypochondriac cause.

The vapour origins in the precordiis thanks to a melancholic substance.

This, being some kind of against-nature matter, it necessarily goes along with the emission of blood, both because the faculty has been spoiled because of an excess of blood, and because it has been hindered by the obstruction of the veins of the liver (they are obstructed by a substance, fat, dense, sticky, resistant, thick with catarrh); or due to the issue of blood, because the faculty has been spoiled by an excess of cold, and for an external irregularity, as for instance, an unrestrained behavior of life. This is, therefore, the cause from which all the remaining symptoms are provoked.

Things being this way, a method shall have to be established, such to soften the substance that produces the obclusions, and to reduce, remove and expurgate it, and that all the body will be completely purified, the liver freshened, warmed the belly, and all the structure of the body appears to be well-balanced. In the meanwhile, however, moderation should not be neglected. Prognosis. Those who dealt with this kind of illnesses, above all the chonical ones, they know very well how difficult and hard this task is. If non-compliance should add to these difficulties, we cannot promise anything sure. But if the

³⁴ Joannis Cratonis à Kraftheim. CONSILIORUM MEDICINALIUM. Liber VII

optima voluntate, quemadmodum non diffidimus, obid
praesidiorum materiae sunt proponendae.

patient follows these excellent advices, then we can make
a lot of promises, which we will actually keep. Still,
although we do not question his full disposal, there must
be proposed some remedies to help him.

Illness therapy is based on the principles of
hygiene that was dear to the medieval
theorizations.

It is again emphasized the relation between
macro and microcosm, that according to
magic and esoteric doctrines established a
deep analogy between man and the whole
universe.

Crato von Crafftheim criticized in Paracelsus
the abuse of the neologisms, the belief in an
astrologic determinism, the panaceas of
alchemy, the initiatory atmosphere with his
disciples (Guerrero, 2001).

Illud potius optare velim, ut hoc tempore
plurimi sint qui artem a veteribus traditam
(quae, si vera medicina non est, nulla certe est)
nostris aetatis ingeniis proponere, eaque ac
nescio quam anatomiam ineptissimis, quibus
saeculum hoc plane completur, deducere
conentur. Tenebrum certe tempora nunc
ingruunt, in quibus tartaream medicinam
quidam novis involutam praestigiis
verborumque vanitatibus, quae Alchymisticum
barbaricumque coenum redolent, implicant, ita
ut σκοτεινοί potius quam medici, non tam ex
Heracliti schola quam ex fumis Alchymicis,
quos magno studio vendunt, infeliciter conflati
videantur.³⁵

For melancholicus he suggests the use of
dietetic and therapeutic systems with herbs (in
particular bear's foot, but also warmwood,
with an evacuative result):

Ut autem obstructiones tollantur, altero die post
assumptum syruptum bibat Vini haustum ante
coenam, in quo radix centaurei majoris,
minutim incise per 24. horas fuerit macerate, &
hunc potum tamdiu continuat, donec rursus

syruptum assumat. Quantum ad corrigendam
hepatis intemperiem, atque obstructiones in
visceribus & mesenterio aperiendas hic potus
proderit, re ipsa experietur. Ut autem melius res
procedat, matutinis horis hypochondria &
Ventriculum sequenti unguento inungat: Ol.
amygdale. dulc, Vini odoriferi, Caryophyllor.,
Ligni aloes an.
Mastiches, Summitat. absinthij.
Bulliant usque ad vini consumptionem, &
fortiter exprimantur³⁶

The resort to bleeding is suggested, always
together with bear's foot.

Atque ut de re Chirurgica primo loquamur,
laudamus ut sanguis primo evacuetur, secta
vena jecotaria cubiti dextri, dein hirudinibus
haemorrhoidibus applicatis, sanguis in ea
quantitate detrahatur, quam virtus sustinebit.
Cauteria vero duo ut siant non improbamus,
verum suademus ut utrumq; inuratur, cum
material, quae in ventre inferiori generator, per
ea evacuari debeat (...)

Ut vero haec tuto administrari queant, suademus
ut leniatur alvus cum melle rosarum solutivo &
Manna. Electuario lenitivo & Manna.
Praeparetur vero cum brodiis alteratis, cum iis,
quae vim habent attenuandi, & emollienti,
cujusmodi sunt cichor, borrago, quinque folium,
capillus veneris, malua, ubi vero praeparati
fuerint humores, tunc purgabitur corpus cum
infusione ellebori nigri, & mellis rosarum
solutivi.³⁷

Potus sit vinum maturum, non potens: sed
mediocre, non nigrum, sed rubeum, & in pauca
quantitate.

Somnus sit moderatus, à meridiano caveat, nisi
forte noctu vigilaverit, exercitium laudatur
(...).

Pruna damascena admodum dulcia, vel caricae
pingues & dulces, incoerint, proavocetur: pro
quo (...) devorari debent, neque semel id
agendum, sed pluries, donec alvus lubrica fiat.
Huius loco probatur etiam brodum caulium vel
betarum, vel mercurialis, cum oleo & saccharo

³⁵ J. CRATO (1563) Iohannis Cratonis Wratlslavensis,
In Cl. Galeni divinos libros methodi therapeutices
perioche methodica, in qua perspicua brevitate obscura
explicata esse et quae reprehensionem habuerunt
confirmata videbit lector, Accessit his demonstratio
quo modo ex generali methodo exercitatio sive
singulorum morborum curatio petenda sit, per Petrum
Pernam, Basilea, f. 1v.

³⁶ Consil. Medic Liber VI, Consilium CVIII, pag 519
(See pag...of the anthology for the original text).

³⁷ Ibidem, Liber VII, Consilium I, pag 3 (See pag...of
the anthology for the original text).

saepius administratum. His enim levioribus alvus erit mollienda, si opus esse videtur (...) ³⁸

...Quare conveniet jus galli non admodum decrepiti, alterum cum mentha, ...agrimon. beton.meliss.foeniculo, & portione etiam saflafras, stillicidium etiam parabitur ex oleo medicato, ut ex oleo de spica, de mastice, cum aromatibus, & cum vino albo generoso, quod secundum ventricolo administrari poterit. Utatur tota hac futura hyeme conserva ex betonica ex menta vel ex melissa. In quibus aliquando misceatur portio aliqua Theriaca. Et haec requirent diligentem vivendi rationem, quare caveat, ab aëre frigidiore. Cibi sint boni succi & facilis digestionis. Caveat à lactiniis & piscibus, fructibus moderate vescatur, vinum paretur tempore autumnii, in quo bollietur, Stoechas, Betonica, Gujadium, Salvia, Rosmar. Borrigo & similia ³⁹.

Et quia magna est colluvies: ideo haec purgatio repetenda addita solum portiuncula hellebori nigri (...) Inter caetera autem maxime probamus vinum chalybeatum, quod paratur, sumendo vinum album cum limatura chalibis confectum ⁴⁰

According to the humours doctrine, the water (dump-cold) corresponds to winter and to a phlegmatic mood; the fire (dry-hot) corresponds to summer and to an explosive temper; the earth (dry-cold) to the autumn and to a melancholic mood; the air (dump-hot) to spring and to a fiery temperament.

In the classic antiquity the elements were combined astrologically to the planetary divinities: Jupiter (air), Neptune (water), Pluto (earth), Vulcan (fire), incarnation which will become a recurrent iconographic motive in the Renaissance and baroque art; according to the hermetic doctrine, then, any natural element corresponds with a particular phase of the alchemic mastery.

Even the Bible, however, shares this conception specifying that the man is “to image and likeness of God” and “coronation” or “measure” of the creation. This symbology

³⁸ Ibidem, Liber VII, Consilium II, pag 12-13 (See pag...of the anthology for the original text).

³⁹ Ibidem, Liber VII, Consilium IV. In *melancholia, vertigine & muscis ante oculos apparentibus*. pag 18-19

⁴⁰ Ibidem, Liber VII, Consilium V In *scirrholiensis* pag 21

has a very important cognitive function because through the analysis of the body and the study of soul we can go back to the comprehension of everything exists in nature, until God.

Natural magic and Renaissance alchemy are founded on this complex correspondences system. “What is below is like what is above”. In the artistic ambit the microcosm doctrine is taken back during the Renaissance, thanks to translation of hermetic texts by Marsilio Ficino (1433-1499) and to the divulgation of Vitruvio’s proportions theory, that have deeply influenced Leonardo’s, Dürer’s and, afterwards, Blake’s paintings.

Magic knowledge is also salvation (as the myths of many psychotherapies today repeat). The process of knowing the nature allows to reach the control of the passions, freeing them from «vile» influences.

Underground channels spread the ideas and the influences.

Marsilio Ficino catches the chains of correspondences that descend from above, from a Heaven which works on the Earth. Astrology humanizes the cosmos because it ascribes human features to the stars: Ares impetuous, Hermes with fast wings.

Ficino writes: «This is our destiny, from the fluid ether to draw tears, laughter, rage, generation, word, sleep and desire». The cosmos is viewed as a “theatre of mirrors”, an ensemble of signs to be deciphered by adepts. According to Heinrich Cornelius Agrippa von Nettesheim (1486-1535) in *De occulta philosophia* (1533), natural magic «contemplates the strength of all the things, both natural and heavenly». Nature can be read like a book. It is also possible to interact with through active participation in magical acts (*magia naturalis*).

Four are the elements and the primal foundations of all the corporeal things: fire, earth, water, air; of these is composed every living being in the world below, not as a result of aggregation, but as a result of transmutation and union. On the other hand, decomposing, everything dissolves again into the elements.

Yet, none of them is pure, but all are more or less mixed and reciprocally transmutable... And this is the root and the foundation of all the bodies, natures, powers and admirable works:

he who will be able to know these qualities of the elements, and their mixtures, will be able to easily carry out wonderful prodigies, turning out to be perfect in the natural Magic.

Chapter III, On the four elements, their qualities and their mixtures.

Michael Maier (1618) in *Atalanta fugiens* wrote:

Emblema XV Opus figoli consistens in sicco et humido, te doceat "Let the work of the potter, which consists in [combining] dry and wet, teach thee".

Emblema XIX Si de quatuor unum Occidas, subito mortuus omnis erit "If thou killest one of four, all at once will die".

The Four elements, interpreted alchemically, compose a substance.

Robert Fludd, English physician and esoteric philosopher of the Hermetic cabalistic tradition, theorizes the circulation of the ethereal spirit in the arteries.

In the second chapter of *Utriusque cosmi historia* (1617) he defines the interior microcosm as «the hidden part, invisible and immortal, of the man, formed by the invisible parts of the invisible worlds of the macrocosm, through which not only devotes itself to its natural functions, but also is used to turn to the divine contemplations».

The ethereal part of the soul snatched also the four properties of the starry sky, corresponding to the four triplicities of the Zodiac, and seizes them, in order to perfectly carry out its function in the human body. In fact, it derived its attractive faculty from Aries, Leo, and Sagittarius that form the fiery triplicity; it took the retentive faculty from Taurus, Virgo, and Capricorn, and the digestive one from Gemini, Libra, and Aquarius; finally, arrogated to itself the expulsive one from Cancer, Scorpio and Pisces.

Moreover, from Saturn's sphere it had its receptive strength, the gravity and steadiness in the decisions, and prudence wedded to profundity.

Finally, the inferior part of the soul, called sentient and animate, introduces in its opaque mansion the tempers, the moods, and the other properties, consistent with the sentient organs for the perfection and the completeness of the elementary composition, according to the circumstances. From this it appears evident that the soul in its travel, wandering from unity to multiplicity, attracts infinite properties of

macrocosm, originating from its divine harmony. The quarrelsome accents, which rather often can be heard from the heaven, derive instead from the planets. In the case in point, Saturn infuses sometimes into the soul seeds of envy and disharmony, and also the hate, the immorality of life, the melancholy and other similar affections.

During the Renaissance the doctrine of humours was thus introduced in a more complex moral and philosophic system, which locates in the active and contemplative life the two different roads guiding to God, being revaluated the relation between melancholy and creativity⁴¹.

⁴¹ The theme of melancholy has fascinated even famous artists like Michelangelo and Dürer, this one inspired by the description by Aristotle (*Problemata*, 30, 1), according to whom Plato and Socrates had a "melancholic temper".

However, descriptions of the despair of the melancholic are old as humanity, as it comes out from literature and any form of artistic expression, from Book of Job to the "black sun of melancholy" of Gérard de Nerval, from Augustine to Goethe, who in *Poetry and truth* speaks of the "worst of sicknesses, the most severe of illnesses, where you consider life as a nauseating burden" (Haynal, 1976).

In the *De occulta philosophia* (1533) Heinrich Cornelius Agrippa of Nettesheim dedicates a chapter (LX) to "*On the furor and on the divinations performed in the state of wakefulness, and on the power of the melancholic humour, thanks to which sometimes the demons too are induced to penetrate the human bodies*".

It happens also that not only the sleepers, but the awakes, sometimes, when they have the soul unconfined and free from the commerce of the senses, moved by internal urges, can divine: Aristotle terms furor this divination, and he teaches us that it derives from the melancholic humour. In his treatise *De divinatione (On the divination)* he asserts indeed that the melancholics, because of their ardour, predict without error distant things and imagine readily the situations, receiving easily the print of the celestial bodies.

And in the *Problemata* he asserts that the Sibyls, the Bacchantes, Nicerato Siracusano and Ammon were prophets and poets because of their temperament, by nature melancholy.

Sydenham (XVII century, in Foucault, 1963, p. 309) remarks that the melancholic ones are "persons who otherwise are very wise and well-advised and endowed with exceptional insight and sagacity. So Aristotle has observed very rightly the melancholic persons are more spirited than the others".

Equally effective is the description given by Montaigne (1533- 1592) in *Essays* (1580):

The black bile inclined one in the direction of scholarly, and the scholar's way of life bred black bile in turn with a higher risk.

The humanistic community of the Renaissance (Ficino, Pico, Lorenzo the Magnificent) discovers that Plato was born under Saturn, the farthest planet (at the extremity of the world axis); Saturn the king was deposed and thrown out of the kingdom of Gods, and the birth under Saturn delineated the dangerous bipolarity of Saturn (Klibansky et al., 1964).⁴²

Also the German painter Albrecht Dürer was deeply influenced by the cognitive valorisation of melancholic temperament

It is a melancholic temper, and so a temper really in contrast with my very nature, produced by the sadness of the loneliness where, some year ago, I had plunged into, that had suggested to me this fancy of writing. And then, finding myself absolutely deprived and empty of any other matter, I have presented me to myself as a topic and subject.

In *On Melancholy* Nietzsche (1844-1900) states (1871):

Don't be angry, Melancholy,
if I sharpen my pen for singing your praise...

So, it would be the depression to distil sensibility which, afterwards, expresses itself in genial works (Jamison, 1993).

Even in a recent APA Annual Meeting has been discussed this nexus among increased consciousness, distilling of a charming sensibility and attainment of the heights in literature, arts and sciences.

On this supposed bond there have been also critical voices, such as the one by Deborah Spitz (2001), who has stated whether these statements are expressions of an idealization of melancholy, "caused by the ignorance and by the lack of understanding of that are clinically?" "Is the melancholic mood really one of the fruitful introspection?"

⁴² Among the most representative works of this cultural milieu we remind Giuliano and Lorenzo de' Medici's statues (Florence, San Lorenzo, New Sacristy) by Michelangelo, where Giuliano represents the active life and Lorenzo, known with the nickname of "thoughtful", represents the contemplative attitude. In Lorenzo's representation, the forefinger on the mouth hints at saturnine motive of silence, his arm reclined is an iconographic *topos* of melancholic humours, the closed casket is an allusion to parsimony, typical attribute of saturnine temperaments; the face in the shade reminds the *facies nigra* of Saturn, protector of gloomy persons (Battistini, 2002).

conducted in the Florentine neo-Platonism ambit. In the painting *The four apostles* (*Allegory of the four temperaments*, 1526) Paul represents the melancholic humour. By the same author the famous engraving *Melancholia I* (The Angel, 1514) "the hearth's secret treasure" where the angel, or the alchemist, is represented with the symbols of knowledge that nonetheless do not satisfy him; he contemplates these objects and cannot use them; the bowed head, main attribute of Melancholy, suggests both the soul pains and the contemplative attitude, the instruments on the scenery allude to the different stage of the matter transmutation; the magic square is an usual object in the alchemic images; the dark colour of the face reminds the *nigredo*, the beginning of the alchemic work. The bag and the keys are attributes of Saturn, protector of melancholic temperaments. Dürer would have been inspired by the dragon of *De occulta philosophia* of Agrippa, as Blake (1757-1827) outlines.

It is noteworthy that in a book of the *Theatrum Chemicum*, *Theorica*, the Author coined the term of *Intemperamentum, sive non temperamentum*, "una innaturalis dispositio corruptibilis".

Quia temperamentum sicut est perfectivum actionis, non clarius cognoscitur, vel rectius conservatur aut reperitur, quam per dictam scientiam, quia sive sit unus habitus, vel diversi: omni tamen tempore unus est solus terminus, & modus conservandi rectos terminos producendo ad finem dictum temperamentum, quod volumus significari per C. Intemperamentum, sive non temperamentum, est una innaturalis dispositio corruptibilis, quae sit per elementariam dissolutionem, per quam immediate corrumpuntur actiones rerum individualium & naturae, per elongationem aut labilitatem sui temperamentum, quod venerat per continuitatem & colligantiam suarum partium compositarum compositione⁴³.

⁴³ *Theatrum Chemicum*, Raymundi Lullii *Theorica*, *Caput, 2, pag. 4*

Figure 4-1. Intemperamentum, sive non temperamentum⁴⁴.



⁴⁴ Ibidem

The Author of another book of the *Theatrum Chemicum*, *Harmonia Chimica*, Lagneus introduced the temperaments into the esoteric language: the terms of the doctrine of the humours are mixed to the *nigredo*, element of the alchemic tetralogy, the early phase of the alchemic work.

Scito, fili mi, semen nostrum esse veram *Salamandram*, quae igne concipitur, igne nutritur, igne quoque perficitur.

Nigredo ista millia nominum fortitur, nunupatur enim *ignis, anima, nubes, caput corvi*: & nigredo haec animam corpori conjugit.

Lapis Philosophorum unus est, sed multipliciter nominatur. Est enim *aqueus, aereus, terreus, phlegmaticus, cholericus, melancholicus*: est *sulphureus*, & est similiter *argentum vivum* & habet multas superfluitates, quae per Deum vivum convertuntur in veram essentiam mediante igne nostro⁴⁵.

Alchemy (in Arabic *al-khimia*) refers to a philosophical and spiritual discipline, with an early form of the investigation of the rules of nature combining elements of chemistry and mysticism, metallurgy and spiritualism, physics and astrology. Alchemists searched for the Philosopher's Stone, in which to obtain the ability to transmute one metal into a more precious one such as lead into gold or create an elixir that grants eternal life. The transmutation of one metal into another could be effected by the rearrangement of the four basic qualities of *hotness, coldness, dryness, and moistness*. Alchemists theorized that every metal was a combination of these four principles, two of them interior and two exterior.

The magical concerns and beliefs, profoundly interconnected with religion, music and medicine, are not a marginal subject but one of the most typical creations of the fifteenth, sixteenth and seventeenth centuries, from Ficino, Pico della Mirandola, to Francis Bacon and Campanella (Walker, 1958).

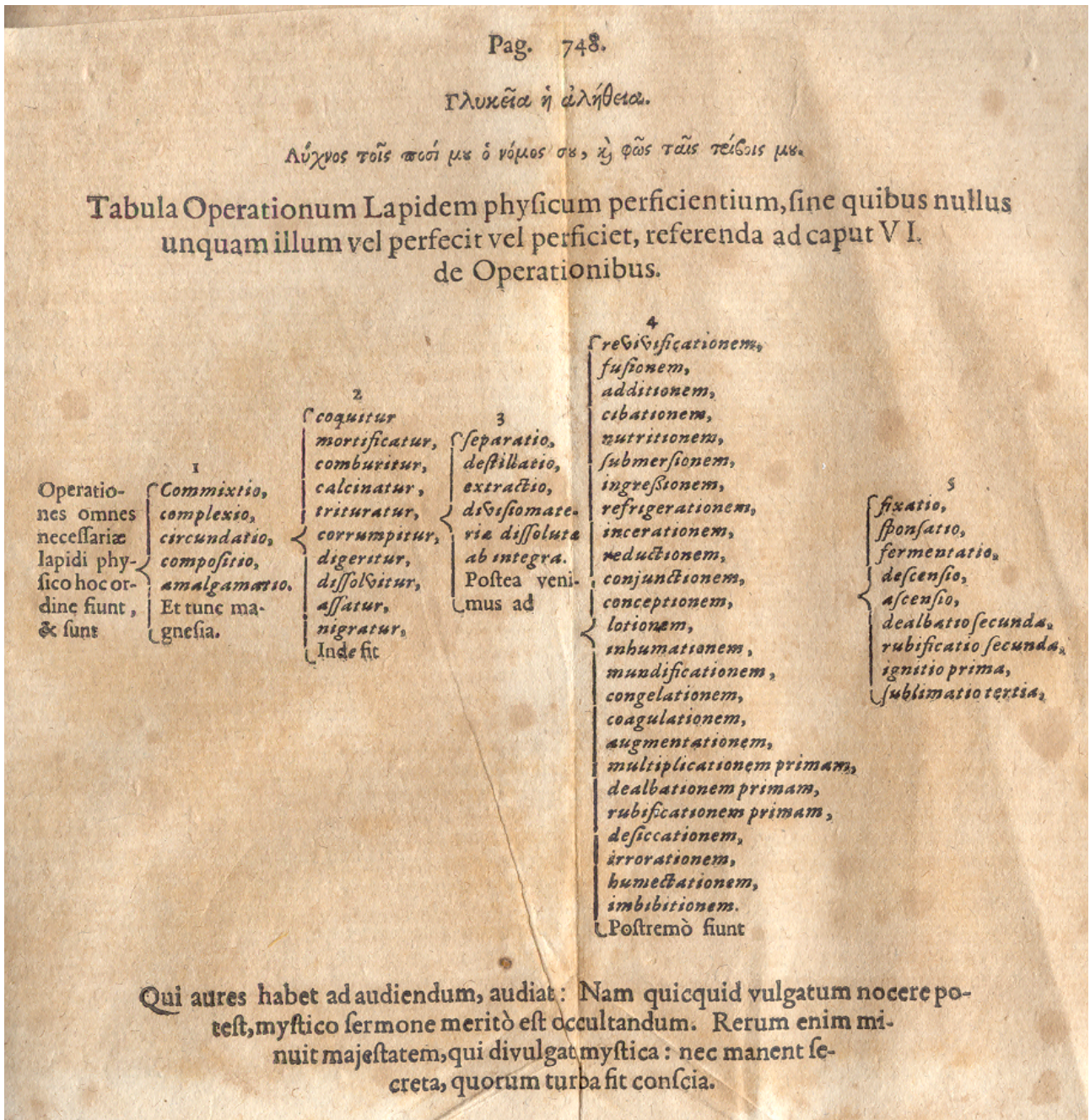
Among the sources of magic of Marsilio Ficino merita particolare attenzione The Picatrix (the latin version of the *Ghayat al Hakim*, the Aim of the Wise), un'opera magica rimasta manoscritta not printed per secoli perché ritenuta "pericolosa".

It was written around 1000 A.D in Arabic and translated into Latin in 1256 for the Castilian king Alfonso the Wise. The Picatrix is an encyclopedic work, considerably larger than most other medieval grimoires or books of magic, partly coming from the Harranian Sabians, who pursued their worship of the astral deities and the tradition of Hermetic philosophy well into the Middle Ages and in Renaissance. We can notice its influence in the writings of Pico Della Mirandola, of Cornelius Agrippa von Nettesheim, Marsilio Ficino and other philosophers.

The cosm è pieno di particolari energie e/o forze, divine o planetarie veicolabili ed attuabili con formulazioni magiche o conoscenze astrologiche; mediante l'uso di tali conoscenze è possibile prevedere il futuro, ad esempio per ottenerne di benefici; o scegliere il momento, propizio, per le particolare configurazioni astronomiche, per intraprendere un'attività e così determinare il proprio destino.

⁴⁵ *Theatrum Chemicum*, Davidis Lagnei *Harmonia Chemicæ De Materiae physicae nominibus*. Caput I, pag.718.

Figure 4-2. Tabula Operationum Lapidem physicum perficientium⁴⁶.



⁴⁶ Theatrum Chemicum, Davidis Lagnei Harmonia Chemica De Materiae physicae nominibus. Caput VI pag 748

In an esoteric perspective Theophrastus Bombastus von Hohenheim, known with the name Paracelsus (1493-1541), worried about

the correspondence between microcosm and macrocosm, the man and the movements of stars in the firmament:

Sicut hactenus traditum est de motu stellarum, hoc est, ipsius firmamenti: deinde Elementorum, quomodo in vivo corpore habitent, et substantialiter in seipsis consistent, unumquodlibet in sua ipsius potestate: sic annexa cetera quoque plana doctrina vobis edifferemus. Et ut Ens naturale fundamentaliter innotescat, imaginationi vestre reindicamus quatuor complexiones, Choleram, Sanguinem, Melancholiam et Phlegma. Sed prout has enumeramus: sic nihil nobis negotii datum volumus ista opinione, qua afferitur, quod illae ab astris aut elementis, sint aut veniant. Quorum nullum vel parte minima verum est. In hoc tamen vobis cedemus, et argumentum vestrum probabimus, quod nimirum singularis creatura in corpora data sint: ita nimirum. In corpore gustus 4 existunt.

Totidem et in terra: aciditas, dulcedo, amaritudo, et salsitudo: Horum quatuor vobis talem explicationem afferimus.

Quatuor gustus perfecti sunt in unoquolibet subiecto. In nullo tamen subiecto, praeterquam in hominem praevestigabiles sunt. CHOLERA principium suum ab amaritudine desumit. Et res quaevis amara, calida et sicca est; ignis tamen non attingit. Ignis enim nec calidus, nec siccus est, sed est Ignis. Aciditas est MELANCHOLIA. Quicquid enim acidum est, frigidum ac siccum existit. Et hoc sub appellatione Melancholie intelligitur, nec ad terram quicquam pertinet. Terre enim et Melancholiae magnum intervallum aut discrimen est. PHLEGMA ex dulcedine oritur. Omne enim dulce, frigidum et humidum est: nec tamen aquae aequiparatur: ideo, quod Phlegmatis et aquae eadem ratio fit, que ignis et aquae.

SANGUIS ex sale est. et quicquid falsum est, est sanguinem, id est, calidum et humidum. Et haec de 4. complexionibus notanda sunt, veluti in corpore oriuntur: ut sunt Aciditas, Dulcedo, Amaritudo, et Salsitudo: Ceterorum in sequente capite mentionem faciemus: Ita ergo pronuntiare licet: si sal in homine ex Ente complexionis superat, tum sanguineus est. Si amaritudo precellit, Cholericus est. Si aciditas prevalet, est Melancholicus. Si dulcedo praeminet, est Phlegmaticus. Sic ita, 4. Complexiones sunt in corpore, veluti in horto quodam, in quo nascuntur Amarissa, polypodium, vitriolum, & sal nitrum. Et hae in corpore persistere omnes possunt, ita tamen ut una sola precellat.

As it has been handed on from our forefathers about the movement of the stars in the firmament, so in the same way the elements of living bodies found on senses each in his power; we shall explain also the other related issues with a simple doctrine, and for emerging the main elements we present four humours: blood, yellow bile, black bile and phlegm.

But let us expose them minutely: I do not want to have obstacles to affirm this opinion, according to which is believed that they come from the stars or from the elements. None of these is true, or just a little part of it. In this, however, we submit to you and appreciate your demonstration, the fact that in the bodies is surely introduced a singular creation; it is undoubtedly so. In the body there exist four tastes. As many also in earth: acid, sweet, bitter and salty: of these four we offer you such explanation. In any subject, four tastes have been improved. Still, in no subject, but in man it is possible to seek them. The BILE draws its beginning from bitterness. And everything is bitter, it is warm and dry; nevertheless the fire is not connected. In fact the fire is not neither the heat nor dryness, but it is the fire. Sourness is MELANCHOLY. Indeed, whatever is sour, it is also cold and it is born from dryness. And this goes under the name of melancholy, and it doesn't pertain at all to the earth. Actually, between the earth and the melancholy there lies a great distance or difference. The COOLNESS comes out of sweetness. Every sweet thing, in fact, it is cold and damp: nevertheless it is not comparable to water, for this reason: because there is the same relationship between the coolness and the water than between the fire and the water.

The BLOOD derives from salt and anything that comes from saltiness, it is blood, and that is to say, it is warm and wet. And these things must be observed, about the 4 complexions: how they are originated in the body: they are sourness, sweetness, bitterness and saltiness. We will mention the other things in the next chapter. So then it may be affirmed that if in an individual the salt is more than what is established by the constitution of the being, then he will be a of the sanguineous kind. If sourness prevails he will be melancholic. If sweetness is excessive, is a phlegmatic. Hence, the four constitutions are in the body, like in a vegetable garden in which the morels, the polypody, the vitriol and the saltpetre are born. And all these flavours can coexist in the body, although only one outdoes the others.

In the description of mania also, the role of the relation between micro- and macrocosm is underlined, while the humoral theory is refused (“*There is no cause, in any man, due to which one can be called melancholic, bilious, bloody or phlegmatic. In fact, man does not possess inside him, this principles*”). We subsequently report a passage in which Paracelsus shows own theories on origin of mania.

On mania (De Mania - Opera Omnia medico-chemico-chirurgica) pag. 604-605⁴⁷

Mania is known among the Latins as well as among other people, by many names, nevertheless it's just a single illness. As indeed exist many ideas on the various kinds, different causes have been assigned to mania, although none of them matches the experience that springs from the evidence of nature itself.

What?

If a man, with full control on his own sense, he's deprived and plundered of it and does not use it inside the limits for which it has been created, but wanders furiously and acts madly, he's a victim of mania. Many are stripped off of their own sense, in other ways too, as are the drunkards, the demonized, the dull and the oppressors.

Which are the real maniacs?

These, however, cannot be included into this group. And, actually, in them, sense is lost not just because of the illness, but due to other accidents. Those we treat here, instead, are real illnesses and origin naturally from pathogenetic causes.

The cause

The integrity of reason lies resides in purity.

Proceeding more deeply in the explanation of the cause, it must be said that sense must be pure and clean, as in the field is excellent the corn without darnel and discord. As, indeed the darnel grows and increases among the sown corn, so the darnel grows in the intellect too. Who has to report an opinion on some things, if gets on oppressed by a plentiful of discord, as if of vetch or darnel, becomes crazy. So, mania comes to existence.

The darnel, in fact, has spoiled the corn itself.

Then again, like we don't touch a bowl full of lilies bare handed, if we don't see at least a nettle mixed to it, because the nettles sting the

roses, the lilies and the hands, so the darnel stings the sense and turns it away from its nature.

And in fact, if they are born among the roses, it amounts to this, to a wound of reason, due to which it inflames, gets furious and angry and it's close to the thorns of the roses, that nobody touches with the hands, so blustering reason does not do any good to anybody, but stings and wounds whoever tries to use and take advantage of it.

Losing restraint destroys everyone.

Mania, moreover, happens in a natural way. This way, any thing, if it strains beyond its forces and nature, it spoils itself.

Of every organ, the preset goal, its proper function, is the one, which can't be excluded without provoking damages. So, the duty of the eyes is to see what they can, and not to see what they can't.

The function of the eyes is to see.

Indeed, in such a way the eye is blinded by the light of the sun, being the latter an eye itself, so the reason too is spoiled by what, in comparison, is just like the sun for the eye.

Since every man has his own fixed and established vocation, he has received also enough amount of sense to accomplish it. To speculate beyond the capabilities of the human brain, means to shatter and damage one's sense. Actually, a man has received more strength and endurance of another, to administrate more important things; that's why to one has been granted a sense superior to that of another.

To each one, his share of sense.

Everyone, then, has to know and understand he's own ultimate latent power and soul must not be exasperated from superior and more elevated things, so that our reason does not twist against itself, as happens to our eyes, facing those of the sun.

But these words are enough, as far as an excessively tense and absorbed reason is concerned.

The mania that comes out of the Elements.

Moreover, there is indeed another kind of mania, that, proceeding from the Elements, it destroy our sense, not just tears it, and you see the fire in the water medium, it boils and rages and from this it sends out bubbles, foam and vapour, through an excited ebullition. Our reason is, indeed, similar to a liquid and therefore an element on which the fire operates all of its power.

And in fact, this element from what can be destroyed? Only by fire, of course. And if, therefore, the destroyer is fire, what is destroyed is water. So, then, the substance of our reason is water in shape of vapour, whose outmost refinement it emits boiling the inspiration.

And if the fire is ignited, it happens what occurs between water and fire.

⁴⁷ Theophrastus Bombastus von Hohenheim (Paracelsus). Opera omnia medico-chemico-chirurgica Cap. X (melancholia 21 b). (See pag...of the anthology for the original text).

And this ebullition is the dove of those of looses their sense or no more master it, but the dove is the ruler of sense, not unlikely from the way the water that boils, has no control of itself, but is under the control of fire. The highest art of the physician is therefore this, to be able to extinguish the fire: once this is extinguished, the illness is the ebullition itself.

Many opinions are heard, different from one another, almost as if not just a single cause of this illness could exist, but many could be conjectured, since the differences among the symptoms are observed. One reports sadness, another one hilarity, a third anger and the fourth another symptom, but, yet, of all these there is a unique background cause.

The matter can be understood this way.

Humours are not the cause of mania.

There is no cause, in any man, due to which one can be called melancholic, bilious, bloody or phlegmatic. In fact, man does not possess inside him, this principles.

What is true and can be said is, instead, that man is subject to a certain sky, a certain influence, a certain constellation or conjunction and other similar facts suggested by astronomy.

And, according to these facts, a man is now glad, then he's different and different also from himself. Actually, is not nature, but the sky that rules these things, although sometimes nature can be melancholic, phlegmatic, sanguineous bilious, etc.

The habits of the maniacs come from the sky, not from their humours.

But it's not the same thing, then. And, since wine fills man with gladness and sadness alternatively, this definitely derives from the motion and the condition of the sky, not from the nature of the microcosm. Therefore, men show various symptoms of the aforesaid kind, because they are subject to different kinds of sky. And they imitate this, not nature in itself. And which physician could indeed talk about and discuss these matters, if he does not know the sky? The thesis that involve humours, are groundless.

Others could add and number other causes of mania, in addition to the above-mentioned ones, I mean, the excessive trust in strength and potentiality and the action of the elements.

But this other causes can't find substance and seat neither in philosophy, nor in astronomy itself, on which physics is based.

Which must be the doctor.

Actually, is called a physicist only who has a name as an experienced astronomer and as an accurate philosopher. So, we can leave out these foolish things.

Meanwhile, I will refer, however, about that kind of mania that origins from foods. In fact, as do exist foods that make us laugh, become sad,

angry or glad, there are others that, once swallowed, jolt the strengths of reason.

Wine alters the soul of man.

If in wine, in fact, there lies such a nature able to totally upset a man and impressively alter his heart and soul and exalt him at most, almost alienating him from himself, so there will be also things that exalt the human reason to such a point that the brain might be corrupted and stunned for reaching such a high level.

As in fact the drunkard utters dazedly what he knows, so, if due to food or drinking, the domain of sense is lost, there will happen exactly what we have just said to happen with wine. Out of this food, the one who tastes it will suffer in the same way of one who drinks wine and gets drunk. As far as regards wine, it's enough to examine its nature.

As regards food, instead, that throws the brain in a condition of chronic and acute insanity, first, the cause must be located and then, the arcane secret of nature has to be provided. Those who say that these facts have no explanation, anyway, are not missing. But those who speak like this, ignore completely the obscure sides of things.

The grains in fact, impose the *folia lupina* encourage mania and being crazy, generate furies. All these things avert man from reason to the point that he doesn't recognize anymore even himself and they obtain this not thanks to the power of a poison or of a superstition or of evil spirits, but according to their own nature, condition and strengths etc.

Like it's demonstrated by the similitude with wine. And even if someone gets rid of it, this doesn't happen to many who, mostly suffer from chronicle pains. It's fair to shut up and not spread anything of that kind. There are, in fact many causes, to tell here only in a minimum way, that are the basis of the secret of the hemlock and similar substances. I will set forth clearly the cause of its property, due to which it produces insanity. And even if wine surely gives many similar signs, it's better anyway to add the reason for the cure that follows.

The hemlock is harmful to the body.

Like in wine, there dwells a perverse spirit, harmful and enemy of reason, so, in the same way, we must recognize that also in the hemlock there is a spirit, whose virtue and property is not different from the one of pepper or ginger.

The ponticitas of pepper and ginger hurts the brain

This *ponticitas* or sourness, if it reaches the brain, it makes it go mad and rage. And, actually, the brain can't bear what is different and unrelated to its nature. Whatever has in its spirit some ponticitas, it destroys and annihilates the brain. And what has a body, cannot destroy, like pepper and ginger. Only those things in

which there is the *ponticitas* air, have the capability to develop mania.

Like you may happen to notice that every thing that brings about dryness or wants to dry up, brings about a great pain, in the same way you have to know that do not exist brains that warm up in their own spirit due to heat.

Who can't bear the pain of the brain.

Therefore these men are completely upset and become maniacs because they can't bear the pain to their brain.

That's why you have to know that mania is in the brain and it penetrates to membranes of the body.

The sour spirits, in other limbs they cause pain, in the brain insanity.

Thus, come forth the spirits. Of them, many ascend only to the body and damage and destroy it, as we said before. It's worth knowing moreover, talking of these things, that whatever the illness of the body (the gout or epilepsy or the colic, that are themselves spirit of illness) it has inside ponticità and sourness of that kind, and as in another place it generates illnesses, in the same way does also in these places.

And these paroxysms are paroxysms of mania, that generate in other limbs of the body at least pain, and in the brain they impose and develop mania. Like spirits of this kind are hidden in the edibles things, such as the herbs, the brains and other similar ones, encouraging the mania in man, so similar spirits are born from other human illnesses and, assailing the brain, they upset and destroy it, committing it to mania. And when, indeed, it is in this state, it becomes subject to the moon and the lunar stars and eventually the sky, according to its nature and condition, dominates it in different ways. Indeed this variety and diversity does not speak in favour or prove the existence of another cause or another material. And this diversity must be examined with deeper accuracy by the astronomers.

They are afflicted sometimes by a similar mania also the men oppressed by a force of the conscience or that are tortured in a, as we use to say, deeper spirit and that provoke themselves a desperation and others possible ones close to this.

Mania origins from a stimulation of the soul.

And also these ones, with such an excitement lead their brain to mania. In these cases, however, the cause is obscure and unknown and the astronomer cannot easily understand if it's due to an extraneous spirit or from that nature itself.

Nevertheless, it's absolutely certain this: that those who push the sharpness of their intelligence beyond nature are surely troubled by the spirits through deeper fancies and

meditations induced by the brain, not unlikely a dog is provoked by the smell of meat.

Once they have introduced themselves in the brain, our nature can't easily bear them, just like the eye cannot bear the sun and is blinded by it.

A spirit causes the eerie visions.

It's sure and true that such fancies reveal the spirit and not the man: and, nevertheless, an evil spirit does not besiege them. I postpone the explanation of this cause in the chapter. Their cure is then uncertain. Since, in fact, in them dwell spirits connected to the imagination, in this way we must advance in the cure. In the meantime, as with the silly ones wisdom is of no use, with these men in which the spirits are involved, nothing or very little can be obtained, for their health.

The cure

Whoever wants to bustle wisely, in order to cure this illness, should give up purging and every other hint suggested by this kind of authors: among this there are, for instance, violets, roses, camomile, nenuphars and similar things. Such a cure is typical of the worshippers of the devil, that, while pretending that men are haunted by the devil, they perfectly know that it's not true. Meanwhile, they intervene with other remedies, by means of which they remove mania, and when they happen to be successful in resolving the case, they try to ascribe the worthiness of the solution to the fact of having chased the devil away.

The secrets of Mania must be learnt from the customs of the demons' adorers

By those tricks, they seduce men and promote the sacrifices by which they gain more than from medicine. I omit here, the worships of the devils: it's our task, in fact, rather to restore maniacs to reason on the basis of this method, that experience has confirmed and taught in nature. Towards those patients, then, whoever displays some skill, should learn by the beliefs of them not to avert daemons, but to cure the maniacs with the proper, secret craftiness.

"Ossia", Carinthian monastery

In a Carinthian monastery, called 'Ossia', they show some relics, by means of which they chase away mania, i.e. daemons.

Actually, that's nothing but a remedy. And since this by chance profits, it is indeed a kind of religious mystery. In fact, God does not bestow it. Not erroneously then, we have said that they draw sacred symbols from medicine. So they obtain benefits thanks to the crystal too.

And so I let you ponder if the crystal is the divine Peter or Nicklaus. The monasteries of such a kind are numerous all over the world and their sacrifices and their monks, although worshippers of the devil, carry out their deeds thanks to medicine. If indeed in mania there should play a role the devils, they surely would not escape hearing such words from the fathers!

And if their remedies could draw to light some divine bodies, they would surely arise from their own Manes.

Medicine is common to probe and improbe men

For this, indeed, medicine was given to us, not to let our sins do such useless things, much ado about nothing, but to be entrusted to honest men. And the beloved virtue needs an integer human being, as the Apostles say.

This is the cure, then: a crystal, a caustic medication and practical remedies.

Paracelsus, who, still deeply attached to Middle Ages, formulated astrologic predictions for the years to come (Koelbing, 1985), describes “melancholic persons” whose essence would be due to a change of the *spiritus vitae* and states that melancholy has to be considered “an illness that affects the man who becomes very sad, oppressed, boring, irascible, distressed, so that he gives himself up to strange thoughts and speculations” (Muller, 1980). He notes that there are four kinds of melancholy, which are caused by four tempers, but that there is not any need for a specific remedy. For example *sanguis et cholera* are both accompanied by joy. Then in *The illnesses that deprive man of reason* Paracelsus discusses in a critical way the coeval opinion according to which you have to attribute diseases to supernatural causes. His vision is connected to the ancient humoral pathology that is criticized (“The thesis that involve humours, are groundless”). He also differentiated (anticipating Bonhoeffer, 1917) between endogenous (endotoxic) and exogenous causation (Pauleikoff, 1983) and supernatural, even if at the end the super-ordered cause results to be the effect of the astral forces, exerting an influence both on the effects of exogenous causes and on the humoral aspects and on the quality of the tastes. It is emphasized in the quoted text, particularly in the paragraphs “*The mania that comes out of the Elements*” and “*Humours are not the cause of the mania*”. Yet according to his conception, are not the humours with their qualities of cold, hot, damp and dry, that sicken us, but the three chemical active principles: salt (the solid-durable), sulphur (sulfur—the inflammable) and mercury (mercurius – the

mutable, active). The heat sublimes, distils and precipitates the mercury: the sublimation provokes mania, the distillation melancholy (Fragm. Med. P. 13).

Besides the supernatural appearance and besides the movement of the stars, there would be elements present in the organism that, if not kept in equilibrium, can be responsible for the contamination of the reason and for the loss of the same (“Then again, like we don’t touch a bowl full of lilies bare handed, if we don’t see at least a nettle mixed to it, because the nettles sting the roses, the lilies and the hands, so the darnel stings the sense and turns it away from its nature”).

Among other things Paracelsus uses the term mania to identify not only the hilarity and the fury, but also the sadness (“One reports sadness, another one hilarity, a third anger and the fourth another symptom, but, yet, of all these there is a unique background cause”).

Also in the anthology passage, in the section about treatment, there is an evident criticism of the daemonologic vision of the illness.

From the criticism over classical humoral theories follows the criticism over the traditional methods of cure, like the purgatives (“Whoever wants to bustle wisely, in order to cure this illness, should give up purging and every other hint suggested by this kind of authors: among this there are, for instance, violets, roses, camomile, nenuphars and similar things”).

Paracelsus contributed at the fall of the humoral doctrine with the introduction of the three chemical active principles that reconciled with his cabalistic system.

The modern foundation of the psychiatry does not occur with a parting from the classical past greek and, in part, latin.

There is a debate about the relationship between alchemy and modern science. Positivism and scientism claimed that alchemy has been viewed as a sort of antiscience, as a form of lunacy and superstition, which impeded the development of rational chemistry and medicine.

Recently Newman (2006) exposes the speciousness of these views. Tracing the alchemical roots of Robert Boyle’s famous

mechanical philosophy, for Newman alchemy contributed to the mechanization of nature, a movement that lay at the very heart of scientific discovery.

Authors like Daniel Sennert and Robert Boyle provided convincing experimental proof that matter is made up of enduring particles at the microlevel.

At the same time alchemists created the operational criterion of an “atomic” element as the last point of analysis, thereby contributing a key feature to the development of later chemistry.

Paul Kristeller, Ernst Cassirer and Eugenio Garin noted that the Hermeticism of the Renaissance⁴⁸ had played a largely underestimated role in the formation of modern science and culture (von Stuckrad, 2005).

Also modern psychiatry has “turbid, muddy” roots. There is a shadow line: the choice between science and magic does not take place at one time, as the long-lasting, even if declining, success of magic psychotherapies demonstrates.

And the magic resurfaces not only in the “alternative” medicines and in the “alternative” psychologies, in the savage therapies, but also in neo-religious and cultic groups.

⁴⁸ The characteristics of Esotericism: (Faivre and Needleman, 1992): the idea of correspondence, the concept of living nature, imagination and mediations, the experience of transmutation, the praxis of concordance, the notion of transmission.

5. Humours, vapours and corpuscles

In this chapter we have assembled Authors like Luiz de Mercado, Daniel Sennert and Jacob Le Mort, through a historical period following the Renaissance.

Luiz de Mercado still expressed the humoral theory, introducing hydrodynamic principles that will be developed by mechanists, together with the qualities of humours and of vessels.

Daniel Sennert was a representative of atomism and inserted spiritualistic concepts within a materialistic vision in the relationship between matter and soul and in the notion of atoms of the soul which via semen could transfer the human soul from one generation to the next.

With Jacob Le Mort conceptions asserted themselves, which every movement of the matter derived from the ethereal molecules, and in the alterations of humours considered the shape and extent of the slightest particles and pores more than the salts ratio (Sprengel). “These *deliria* might arise from a sooty, thick and livid vapour, which reaches the upper parts of the brain: in fact the corpuscles that exhale from it, attack the brain for as long as it is present and slow down the cognitive functions of thought, presenting to the mind the same things with more care and scruple and doing so, almost fix the ideas of the slow thoughts.”

In late seventeenth century the humoral doctrine lost ground in favor of the new theoretical systems.

We report below a text by Luiz de Mercado concerning melancholy and mania. He reverts to the classical distinction between delirium with fever or without fever. Even if it is possible the presence of melancholic themes in the confused delirium, with fever, the true melancholy realizes itself within the ambit of the delirium without fever. Even if de Mercado confirms the relevance of the sanguineous fluids and of the humours, he argues that in the genesis of the melancholy

the role of the substance present in the brain shall not be neglected (“it must not be thought, as many do, that melancholy does not concern at all the mind and the sense: in fact, Hippocrates leads them astray, having written (lib. *De flatibus* 20. sententia) that sense is rather in the blood”). Whereas many authors are inclined to revert the conception by Aretheus on the intimate relation between the mania and the melancholy, he tends to separate the two forms, not only in the phenomenal but also in the genesis. It is interesting the assertion that the mania derives from a violation of one’s own temperament, in the sense of equilibrium of the humours (pag. 99 Liber Primis. “Maniae ergo, seu furoris occasionem rectae iudicamus prodire a proprio temperamento violato cum improba humorum exustione, qua in atrae bilis naturam prorsus mutantur”).

On melancholy ⁴⁹

Whoever wishes to know exactly the nature of those diseases which arouse from melancholy (some of which recall madness) and, once recognized them, wishes to prevent or cure them, should first learn, through intense study, which are the kinds of insanity, and how to distinguish them, one from the other: certainly not only according to a limited power of action and to the place of the disease, but also according to the peculiar nature and condition of each one. And it ‘s certainly based on this, by almost unanimous consent, the fact that each kind of insanity, and every kind of mental alienation, may be grouped into three categories, as, either it follows a fever, or brings it, or finally, explodes independently from the fever.

The fever with the simple heat or with some kind of smoke hurts the brain

⁴⁹ Luiz de Mercado Book I *Chapter XVII* Pagg. 79-81 (See pag..of the anthology for the original text).

First kind of delirium: the delirium that comes with the fever

Actually, the fever can damage the brain in one of these ways: either just submitting it to an unnatural heat, that grows in the veins and in the arteries in a continuous rhythm and, in this phase, can only induce insomnia; or because the fever acts together with a heat, both caused by the humour which rots and warms, creating some vapours that, undoubtedly, in this way damage the mind: if a sooty vapour rises too damp and cold, it has previously been said that it provokes a kind of drowsiness and that, in this way, upsets the mind.

It happens indeed that, no matter which kind of rising vapour, it will undoubtedly upset the mind if it's putrid or too acrid, or rotten in any other way and such to burst into the depths of the brain (in fact if it reaches the most superficial parts, it will rather cause a headache).

Men have hallucinations and they see images produced by the faculties of the senses and/or from the inner senses: and through these hallucinations, non-existent things are supposed to exist. And the humoral vapours aforesaid are those that induce these images, each one according to its nature: a certain kind of blood induces pleasant images and consequently moves you to laughter; melancholy gets instead you imagine of sad things; the yellow or black bile produces instead those images that stir the patient to the anger and the fury.

And these *deliria* last surely up to this point: until the fever ceases, whose heat and occurrence have produced these pains; and have no other occurrence, no greater permanence than have the heat and the growing of the fever; if the latter ceases, all symptoms definitely pass, and the mind goes back to its previous condition.

Second kind of delirium: the delirium that comes with the fever

The second kind of insanity it's more serious in nature and condition, for it indeed originates from that cerebral illness that comes along with the fever and it becomes clear that not only the heat or the vapour upsets the mind, but also that the essence of some humour, and, either it spreads through the brain with putrefaction and inflammation or without this, or it inflames the membranes of the brain itself. This means that, apart from the direct danger, the symptoms aroused by a cerebral damage are more serious and, what's even more deleterious, they are permanent and by no means stoppable.

The third kind groups various deliria without fever

The third kind of delirium clearly distinguishes itself from the precedent: in first place because the other kinds persevere and they are permanent, in second place because it comes without fever. To the first group belong the so-called para-frenzies forms; to the second all the different types of frenzies and of lethargy, provided that also the fever has origin from that same affection from which the mind it is disturbed; to the third group, indeed, belong all the kinds of delirium devoid of fever, which actually are of different genre.

The delirium either is natural or lasts longer

As can be read in the "*Phaedo*" by Plato, a double form of fury does exist: one is indeed that which comes to existence with a an exaltation of the mind, out of a physical origin and cause; the other one instead is divine, or is provoked, and, as Caelius Aurelianus reports, is called divination and *furore* or *mania* from the ancients; and in this section, he reviews many other of them, which I leave out due to the shortness of this presentation, tracing them all back to five only: of these, the first one is melancholy; the second, fury; the third one is love; the fourth hydrophobia; the last one is the *hydrolcos* that Avicenna [1.3. tract. 4 chapt 18] called *cutbut*, while the Greeks, *licaone*, id est *folia lupina*.

On the various kinds of delirium devoid of fever

I leave out certain kinds of insanity or fury described by Hippocrates and Cicero and that I assume being rather peculiar moral affections of the individuals, behaviours or inclinations of the way of life and I consider it a condition since birth and I think that such individuals are, rather curable with the wisdom, the education and with an addressing of the habits more than with the work of a physician.

Explanations of mental alienations with different names

If someone, then, wishes, with method and measure to discover, and to know all the other types of mental alienation, he should consider that the principles that cause the illness can occur without fever in many ways: the first one turns up as a very mild slowness. That is to say, when someone does not understand things that are easy to understand, and that makes the individual of little sense (i.e. grown foolish); the second takes place when an individual sees things that aren't truly there. This defect concerns the imaginative and visual ability, and it's called mental alienation; when an individual does not show anything new, but gives wrong judgements of things perceived in correct way, one speaks of mental insufficiency; and if someone is affected in both ways and in a

permanent manner, among the Latins it's said to be insanity.

When there's fear and sadness, this is called melancholy; actually, if anger and boldness join it, we must speak of fury or insanity.

Moreover, the foolishness which first gives origin to a mental misdirection, if it comes out of a cold cause, it generates two subtypes: one in truth it is that for which one has little knowledge of things that are easy to know, and the people affected by this form are called stupid, while the illness itself is called stupidity; the other one, in truth, is that for which one thinks incorrectly on well known things, and it's called fatuity.

Once determined accurately these elements, it will become easy to know or to distinguish the various types of delirium, which Plato reports in the aforesaid passage and, following Empedocles and others ancient, Aureliano he teaches to discern starting from the symptom that follows the delirium.

From where the delirious images arise

Endless, in fact, are the fancies of the delirious ones, all, nevertheless, referable to the physical disposition or to the propensity and affliction of the mind, from which, more than from any other thing, they are amused or saddened or frightened; and it follows that, among the delirious, some think about being possessed by a God and believe to be able to predict the future; there are then some, that continually think about making money; others, they fall madly in love and can't think or talk of anything but love; some think they are emperors; others, struck by poetic fury, they continually try to produce verses; many think about having ingested some poison; others, prone to sex, say ignoble and obscene things. And those that suffer from it, are afflicted when awake from fancies similar to those that we have when dreaming. Some are stricken by bestial folly as well, and they wander like wolves around woods, mountains and deserts.

The double rabies

We have properly mentioned, among these mental alienations, hydrophobia as among the Arabs made Zoaro and among the physicians of our times Cristoforo de la Vega. Nevertheless, there is this difference between the true rabies - hydrophobia and this kind of delirium, and it's that this so called rabies it's not deathly in nature, while the real one kills in a more certain and quicker way. But in this part we agreed to argue only about melancholy.

The name and definition of melancholy

It's important in this section to understand that is said to be afflicted by this form of properly named melancholy, the one *whose symptoms*

are of diverted visionary power, and that have a distorted basic functioning, with the presence of fear, due to an opaque matter which wastes the vital spirits and that follows an intemperance close to the melancholy humour, from which the illness takes the name; of such greatness and effectiveness it is this melancholy, that its cruelty and power could not be better revealed by any other word or label, than the name of melancholy.

Such is its nature and condition that the antiquity, trying to show the greatness of its symptoms, gave it the above-mentioned name, as clearly results from Galen [li. 2 metho.], in the passage in which he maintains that only by this name something great and deadly could be shown, rather than mentioning anyone else of the symptoms that characterize it. Indeed, who wishes to properly understand the nature of this illness, should first consider how the condition of the melancholic humour (*from which the illness is named, being its most powerful cause*) looks like, knowing this way not only the nature of the illness, but the violence of its cause and the nature of all the symptoms, that with extraordinary varieties intervene, being able to offer them a suitable help.

The nature and might of melancholy

The melancholic humour is, in fact of such a harsh and pernicious constitution (however it may come to light, either from nature or from inflammation) that when separated from others and not held back by nature, it can be contained and, when is tempered by others, even if it wanders through the body, it usually foreshadows death, all the more reason when it remains the only one inside the body and wild and furious and the more the afflicted part is important, the more it produces an affliction. It's certainly clear the reason why the humour of such a condition can be generated and, once generated, it can deteriorate, in no other place but the in the liver, due to the intensity of the heat and the narrowness of the veins, or in the spleen, for these same motives, since temperature grows beyond measure or in the recesses of the heart or (as I could say more correctly) in the proximities of these, due to a fierce heat.

What evils are born from restraining the melancholic humour

And in these bowels, if they are healthy, there is a secretion of the aforesaid humour, if, instead, the opposite takes place, the individual dies with lightning speed, unless from these substances the spleen generates, a malaria derives and, from those generated in the liver, derive the elephantiasis, carcinoma or a fever of an evil nature, caused by the corruption, made by the heat of the liver and the blood; and, from those

substances that provoke inflammations of the heart or nearby, of any origin, derive mental disturbance and fury, due to the lightness of the blood mixed with, and from the heat, irrespective of the putridity.

And to this reason you must add the fact that this humour is never expelled or absorbed in a natural way: therefore, it's necessary that in what has been absorbed a part deeply rooted in our heat and our nature does exist: and when this part is not present in this secreted melancholy and is not absorbed, it is not expelled naturally and is held back with a lot more seriousness and risk.

Why the melancholic humour is secreted in a unhealthy way

When, on the contrary, such an useless humour comes out of the body and it's clear that it's not pushed by a natural motion but almost by it's own force, as poisons and worms move, getting the upper hand over nature, it must be assumed that the individual is bound to die and therefore it must as well be thought that this humour is secreted, most of the times, with inauspicious outcome.

And if this one instead remained in the body, it would not be so deathly, because it receives some benefit in proximity or in mixture with other humours, as we can see *in the cases of the varicose veins or of the haemorrhoids*, which cure insanity and other illnesses.

If the melancholic people are disposed to this due to labour, distress or because there are ingenious by nature

And for this reason, it must not be thought, as many do, that melancholy does not concern at all the mind and the sense: in fact, Hippocrates leads them astray, having written (lib. *De flatibus* 20. sententia) that sense is rather in the blood; besides that, a mild and temperate nature is more suited to all actions, so many authors of this kind condemn the melancholic people because their nature diverges a lot from the blood, and they report that the melancholic ones have strength in brain rather than art, and thanks to their discipline, since they are constant in the works and in the studies, rather than for their talent and for natural endowment.

Actually, someone who reads Galen [lib. artis. med.] in the book in which he argues openly about this matter, he will find that, although a pretty mild nature is more useful for every kind of undertaking, nonetheless to an individual are requested to achieve knowledge, a substance, and brain and spirits, soft and clear, mixed with a modest part of of bile and melancholy.

The reason lies certainly in the fact that, when to mental sanity two causes contribute, I mean, undoubtedly, the speed of connections and a severe judgement on what is found, it ensues

that the cause of speediness is certainly the bile, whereas the severity of judgement comes out of melancholy, as we can read in Hippocrates (lib. *De natura humana* comment. 40), either because dryness contributes to quietness: indeed, a quiet soul works better.

Galen [lib. *Quod animi mores*] agrees with this opinion, when he says: *brightness of dryness, mind the wisest*. And Aristotle too [lib 1 problem. 30], when he argues that those affected by melancholy are the most incline to wisdom. And if you read Galen [lib. *De temperamentis* 1. aut alibi] say something different, you'll have to understand that he refers to different actions that can be included in a single typology, as you will find in our book (*ut lib. nostro de principiis artis medicae Deo dante latius disputatum reperies*).

Three kinds of melancholic humours from three kinds of human heat

Although it can be understood for the intervention of which melancholy the individuals get more keen, it must be known that this natural humour can undertake one out of three modalities, as Avicenna said, or is generated by a very low heat of the blood, growing which the other will surely increase too, as it happens in spring. As, I think, Hippocrates said (3. aphor.), *melancholies and furies, in spring take place*, when the above-said impurity, plentiful, although it may be natural by itself, it seems somehow adulterated and rotten.

The second way occurs when it is produced by a natural and moderate heat, as it happens in autumn or at the end of the summer, although Galen and others report a plentifulness of this humours that inflames during the summer, due to the warmth of the period and of the previous summer: [moreover] the erratic or quartan fevers show that it happens also due to a heat smaller than this warmth and of summer, as the words of Hippocrates demonstrate: *The summer quartans are longer than the wintry ones*, because of an abundance of melancholy that comes from the above mentioned cause:

The third and last way is the one that arises from a very excessive heat, as Galen teaches [2. de Cris. Cap. 12] in the passage in which I believe he speaks about melancholy, even if he argued there about blood and natural bile: from this heat surely that condition of melancholy is born, fruitful to many.

In this incertitude, I believe that this melancholy, the one which is warmer and purer due to a natural impurity of the blood, profits more to these task: actually, as the purity of spirits it is necessary to the aforesaid actions of the soul, surely these benefits originate from that melancholy that with time has taken even more heat, more than from the natural warmth

of melancholy, from which, it rather takes away its glow.

Thus, from the aforesaid heat the spirit, it presides warm, shiny and agile to the great and secluded actions of the intellect, when it has a, say, familiarity with the celestial bodies and in an anyway this aforesaid things are effective to the heat, the motion or light.

Accordingly, I believe to be self evident that it comes neither from the melancholy that is an impurity of the blood, nor from the other, which is colder, but only from the aforesaid, that participates of the agility of the bile and the steadiness of melancholy, provided that the heat does not expand to such a point to arrive to the limits of the black bile and the sharpness of brain does not turn into insanity.

Yet, we cannot recognize this truth in the bodies in which this melancholy abounds, dominated with catheters or not repressed from the blood.

The nature of the melancholic affection

Once, then, that the nature by which this affection is named is known, we must determine why, being this affection, as it is, bestowed with the title of melancholy, still, it is not defined this way because of the melancholy itself, or because of a mental disease, but only due to the symptoms shown with greater evidence.

And when this happens, there comes the illness of melancholy, as Aretheus defines it, that is, the anguish of when the soul has just one thought: remaining without fever, and in the end there is the beginning of fury or of insanity, so that reason falls in a single thought, while it remains sane as far as regards the other matters: insanity is indeed a complete shortness of sense: both of these forms, however, are delirious affections and from these we have said that spring those forms devoid of fever.

Still, Hippocrates has truly abused of these two names, while indeed each form has its own and peculiar meaning: in fact insanity tells the more violent of *deliria*, while melancholy is more gentle. This is how, then, must be interpreted Hippocrates in passage 3 aforesaid.

In old age, man is subject to paraplegia and insanity: in this case the term mania is used instead of melancholy: in fact the condition of mania, it is rather far distant from the nature of oldness.

Rurfus at 6 afor. Says: Whoever is struck by fury, if varicose veins or haemorrhoids intervene, recovers. Fury in fact in this passage denotes most of all melancholy, although both forms could be included. How these two affections might be distinguished from one another, can be read in what follows.

On melancholy⁵⁰

And among the affections of the soul that more than others, and in a more essential way, usually recall melancholy, or [by enlarging a present evil] or fear of a impending one, or a tireless study, insomnia and concern about preventing some evil, or pursuing a certain wanted good, a very long exercise and a persistent hunger and in the end love is able to stimulate the souls of young people with such effectiveness to lead them to the aforesaid affliction.

And then, according to the condition of any of these accidents, it's worth averting this evil from the soul with wisdom and art, before upsetting the body with medications: thus, possessing an excellent and healthy valuation, you will provide a defence against any present or forthcoming evil, through an example of patience and of every virtue: study will be completely forbidden and pauses will be ordered, insomnia will be turned away by encouraging sleep in any way; cares will be held back by means of distraction and other, more important tasks; the damage of continued exercise will be detained through calm, as well as the persistent hunger of food will be held back slowly and little by little.

The medicine of the soul

And it is better to recreate the soul with every bliss and distance from it any fixed thought, which can be obtained through stories, games, or by acquiring a new business and completely forbid solitude, and even by singing, when it is taken into account together with those who like it best, and choirs profit a lot to happiness: music has a great power, since it confines sadness and produces bliss.

Moreover, it is not necessary to be severe or harsh with those who are affected by it, nor on the contrary to be too sweet, but it is necessary sometimes to rule one's behaviour, in others to discourage it by means of reasoning, while others must be cheated through a clever simulation: actually, many think to hold snakes or frogs in the belly, and others imagine stratagem from which they will not be easily freed, unless using skilfulness and brain; region, friends, kindred and accommodation, will have to be changed and they will have to stroll through green, wet and pleasant places.

The medicine of the body

But towards these sick people, any medical action must be avoided, in fact it is enough for

⁵⁰ Luiz de Mercado, Book I, Chapter XVII Pag. 92, (See pag...of the anthology for the original text).

them, as we said before, to rule their food or make more frequent baths, or use some light drug, by which to remove, not the melancholic juice (since these patients own very few of it), but the raw humours, that this juice generates galore, due to the distractions of the mind; in some cases, then, it is necessary to eliminate it with some purges, unless having considered that melancholy is by that time too plentiful and if it is better to avoid any extraction of the blood, it is enough to damp and hearten the body and recreate the soul.

Still in the ambit of humoral theory the monumental baroque summa of Robert Burton (1621) voices a lot of authors, more or less famous when not obscure (classic, medieval and “modern” authors), who dealt with temperament and atrabilious disease.

He is an ecclesiastical who confesses to be melancholic⁵¹:

Now last to fill a place
Presented in the Author’s face;
And in that habit which he wears,
His image to the world appears,
His minde no art can well express,
That by his writings yo may guess.

In the title page of the work the astrological signs dominate:

Old Democritus under a tree
Sits on a stone with book on nee;
About him hang many features
Of cats, dogs, and such like creatures,
Of which he makes anatomy,
The seat of black choler to see.
Over his head appears the skie
And Saturn lord of melancholy.

Burton defined as melancholic any mental disturbance with an exaggeration of function (regardless of involvement of the affective life). In addition to a description of a melancholy “without apparent causes” he reports also the different forms of amorous

⁵¹ Also other Authors from Saint Hildegard, to Johnson and Guardini were very likely melancholic themselves: probably for this their writings are so still useful in enlarging our horizons of understanding. Burton wrote also: “Concerning my self, I can peradventure affirm with Marius in Sallust, that which others hear or read of, I felt and practised my self; they get their knowledge by books, I mine by melancholizing; experto crede Roberto”.

affliction and melancholy, references to the “sanguineous melancholy” and to the “irascible melancholy” (linked to violent behaviour), and both the melancholic temperament (contemplative) and the sanguineous one (restless) are considered like possible substrates of melancholy.

Burton expanded the term melancholy and described not only sadness, sorrows and hypochondriac complaints, but also obsession, delusion, suicidal acts. He considered these manifestations not as secondary complications but as primary symptoms of melancholy.

According to Fernel (1607) melancholic temper, related to Earth and Autumn is a “juice with a thick consistence, cold and dry in temperament”.

In the concept of melancholy we can find “partial delirium and action of the black bile, for the moment without any other relation, except for a confrontation without unity between an ensemble of signs and a significant denomination ... Until the beginning of XVII century the discussion on melancholy remains entangled in the tradition of four tempers⁵² and of their essential qualities, stable qualities belonging on their own to a substance that can considered like the only cause” (Foucault, 1963). But during the first half of the XVII century a whole discussion regarding the origin of melancholy is organized: must you have a melancholic temper for being affected by melancholy? Is melancholic temper always cold and dry? Is it never hot and damp? Is it rather the substance that operates or the qualities that spread?

According to Aristotle in *Problemata*, the melancholic temperament is the natural

⁵² According to Felix Platter (in Koelbing, 1985), whom the medicine of XVII century owes a description and a new subdivision of psychic diseases according to their symptomatology, a strong and repeated phlebotomy is the main remedy for the severe morbid forms, like fury (mania) and depression. Laxatives and emetics could complete the treatment for the doctors eager to fight the excess of the imaginary black bile at source, i.e. in spleen and stomach. The ancient humoral pathologists conceived the psychic disease as a consequence of physical illness, localized prevalently in the superior belly.

disposition necessary for creating poetic and genial works, it is associated with geniality, it is joined with poetical or philosophical creativity.

“What is it that all men who are outstanding in philosophy, poetry or the arts are melancholic?”

Aristotle, *Problemata*, IV century B.C.

The term “melancholy” in this period developed two different meanings: it has a technical employ as a kind of delusional insanity, in continuity with the classical theory of humours and a popular usage for indicating sadness, nostalgia

On temperaments⁵³

To render even more perspicuous the nature of health, we must tell something about the triple constitution on which the body’s well-being is based. First, the constitution of the similar parts, and what it is; to it pertains - as it has been said – the Temperament and so it will be the first thing of which we’ll talk. It’s clear that Temperament comes from a blending of Elements and takes origin from the mutual action and influence between the four main Qualities.

But what Temperament is, is very controversial among the authors. Those, in fact, that believe that the main qualities of the forms take place in the Qualities, do not distinguish the Temperament from the form of the mixed one. Fuchsius (*Instit. medic.* I. I. sect. 3. c. I), together with others, say that temperament is a substance and that he believes to be pedantic those that labour to force the physicians not to speak accordingly to the model of the philosophers.

There is not a medical truth and a philosophical one. Temperament is not a substance nor a form

But when all is said, even if nobody could deny that is fair that sometimes the physician, when speaking, is aligned to his very office, nonetheless, it is not suitable for him to utter absurd opinions, conflicting with the principles of philosophy.

Actually, (the physician) obtains his principles from physics and has no other principles than those taught by physics and so, if he states

something opposite to the principles of physics, does not tell the truth. More aptly reason those that think that temperament is not a substance and do not recognize it as a mixed form, but believe at least that it is a quality and an accident.

The temperament is made only of qualities not of substances

Since in fact the temperament surrenders to the senses, gains motion and is subject to alterations, or better still, it springs, so to say, from the quality of elements, it can’t be a substance and neither a form of an essential thing. What is an accident, can’t also be a substance, and from Quality does not come anything that is not in turn a quality, and when this is an accident, it can not be a form of the body.

Moreover, although temperament cannot be present without elements, yet, one thing is the essence of elements, another the qualities which come from it and the temperament, that is born only from qualities.

It is right to distinguish from temperament the mixed form, mostly unknown, and the temperament that sometimes can be exchanged for a latent form, because it is the immediate organ to accomplish the actions and through which the form manifests itself; still, if we want to ponder the thing more accurately, we must extend the temperament to the sole qualities. The ‘mixing’, indeed, to the essence of the elements themselves [...].

What temperament is

Due to the shortness of our study, we do not discuss it further. To proceed faster, we think that has to be considered, in the first place, what follows: temperament is an affection of the mixed body and pertains properly to the mixed homogeneous things:

It cannot then, be properly granted a single temperament to those who have different natures, originated from the distinct part of the body, namely to the living beings, since they are not a mixed unity, but are made up of different parts, each one provided with its own regulation.

However, some common temperament is ascribed to man and to all living beings: this happens because there is something common which diffuses itself in every part of the body, i.e. the heat that spreads from the heart [...].

Yet, since it is not part of our task to speak about temperaments in general, but to understand how much they are involved in actions, set apart that temperament, we’ll speak of what in schools is called for justice and according to this is considered involved in action. Actually, the Maker, in his great wisdom, has assigned to each thing the

⁵³ Daniel Sennert, *Institutiones rei Medicae Lib. I, Chapter IV* (See pag...of the anthology for the original text).

regulation that was more profitable for acting and that every living being or variety of plant seemed to require accomplishing its actions, a task which is proper of the distributive justice.

And due to this, beginning from justice, they called the regulation fair. Although, to respect this absolutely fair regulation, even this one could be called unfair and what has been offered to it might be named according to its nature. Still, since this equality is rather an equity and we can observe a geometric proportion ascribed to everyone, is called temperate everything a rule book naturally pertaining to action, obtains, and sometimes is called unrestrained instead what goes astray from the regulation pertaining by nature to it.

How much the variety of the species, such the one of the actions derived from these: thus, it is not lesser the diversity of the temperaments, which can be traced back to the ways in which one or two qualities might exceed the others [...].

In man there is a twofold regulation

And therefore, man does not have only a similar body, mixed in a simple way, but also organic and alive: from this results that in this just one regulation can be found, as occurs simply for the mixed things, but a double one: one is just the bodily one, another one of the living body, as is confirmed plainly by experience itself.

Indeed, when man dies, the body, or the corpse and its parts, they maintain sometimes their setting, which derives from their composition and from the mixing of the elements, until they (the elements), do not dissolve because they rot or decay.

The inclination of the body depends from the mixing up of the elements: so it does not dissolve, not even by putrefying and burning, and parting the mixable things, and persists after death.

However that body, or corpse that before was warm at touch, now it is cold. And man is weakened by old age, and acquires wrinkles not due to a defect of the matter, from which the body is made, since it is simply mixed to it, but because of a shortness of that other substance, proper of the living beings.

And this is the twofold matter of man: one, since he has a merely mixed body, another because he has a living one. As then, there is a great difference in the making up of the parts, in heat, cold, wetness, dryness, hardness and in other different aspects, so in the matter, proper of the living beings, that is warm, wet, greasy and thick in all of them.

The warm and cold regulation of the human body. The influence of the heat.

Actually, when this heat, proper of the living body and somehow soothed and weak, it is not

enough for life and action, a third substance does add, that comes mostly from the heart and spreads through all the body, warming it: a proof of this thing comes from faintings, when the body is cold and not simply through an alteration of one's body own heat.

This is actually found in the dissolution of the body, due to putrefaction and not to a defect of the unlimited warmth pertaining to the body, but because of the lacking of the heat that rushes (since in fact life lies in that, a living being cannot be deprived of it, and at touch the parts appear to be somehow tepid, I mean, they are not cold as those of the dead ones).

And, thus, from these things it seems clear that in man there lies a triple temperament, the first is simply the bodily one, that sometimes remains also in a corpse, for as long as the body remains integer; another is the one inherent to the living parts and that, through the in borne warmth, remains from its very first arising.

Another, in short, is the one that rushes from the main parts, especially from the heart and that passes through the whole body. Twofold is also the temperament: there is the bodily one, although is simply mixed; another is the living body one that is twofold too, one innate, the other fluent and certainly from this issues the temperament of man.

Actually, it is also to be investigated which is setting of the man as a whole, and of his single parts. Many hold the opinion that is necessary that when an individual excellently predisposed to justice makes some completely perfect actions, that then the temperament if it is disposed to justice, it overlaps with an absolutely perfect setting and this also as far as regards the weight.

And also Galen seems to have understood this, when he says [de temperam. c. 9]:

Lingering on this point, we consider to be very well tempered the man that can naturally be in the middle of the whole substance or rather among all men or living beings, as if, setting a rule or a regulation, all the others, compared to him, could be defined as warm or cold, dry or wet.

It is then necessary that we refer to such a man for many well known things: since he must show medium values, either when compared with the entire substance, or, better still, when compared to men and animals.

But, when all is said, even if he does not seem to be the most temperate among all other living beings, and he does not possess a perfectly intermediate regulation, nevertheless he possesses at least a regulation very close to the middle, to such a point that not only the other beings, when compared to it, are warmer or colder.

drier or wetter, but also the physician refer to him as the temperate one, after having

compared the medicines, to establish the setting and define some of them medicines as tempered and other as intemperate and warm, of course, if they warm up a man, cold if they cool him, wet or dry if they increase or lessen the wet substances: and this is surely what Galen means in the above mentioned passage; however a tempered man is not like this in a plain and absolute way.

And this is shown by the senses themselves. Actually, in a temperament which is completely fair, the senses judge that there is not a quality that prevails on the others and we do not record, as regards weight in a tempered thing, any detectable excess of any quality. In a man is so evident, instead, or rather most evident, that the heat exceeds the other qualities and the temperament of a man is considered to be warm at touch.

The temperament that disposes to justice might be stored up all life through and a man can be tempered for justice for all of his life, yet at the same time being sure, that temperament can coexist with weight, in the middle age and surely for a short time, if it is allowed to.

Which is the most suitable regulation for the human nature

By now it is surely to be seen what is the most convenient regulation to the human nature and the more suitable to accomplish all kinds of actions. It is of the highest interest for everyone in fact, to know this, since it measures all the others [...].

Since, in fact, the blood is the nourishment, or better still the support of all the body, from which the mass of it, in the very womb is born and since, moreover, the blood is a matter of the vital spirit, the state of the body emulates completely the nature of the blood.

And so, if someone possesses a temperate blood, the body as well will be temperate or warm and wet; and this kind of temperament is called sanguineous. If the blood is warmer and drier, it is called bilious: the body, from that very good mixture described before, will incline to heat and dryness and this is the temperament called bilious.

Melancholic temperament

If the blood is wetter and colder, there is the one named lymphatic; the body inclines to dryness and coldness, and we have the temperament called melancholic. Though all these temperaments described so far, are generally warm and wet.

And if this idea is explained this way, the reasoning against it moved by Fernelius in the above-mentioned passage, do not oppose it at all: this darts, instead, they only hit those that believe that the names should be assigned to the temperaments starting from the excremental

humours, from the yellow bile, from melancholy, an opinion to which we dissent thoroughly.

But this thing brings to light also what has been said in chapter 9 about the constitution of the bloody mass.

Since it is impossible, anyway, to refer everything to the primary qualities of the human body, and since the noblest and most hidden qualities pertain to idiosyncrasies which are the cause, together with many other things, of many actions as well as of concordant or discordant affections, certainly for as much as it is possible to the weakness of the human mind, these causes must be known and must also be observed those factors that, according to the above mentioned causes, are the basis of the differences between the human bodies.

Differences among the bodies according to the astrologers

And this, in their own way, seem to have tried to do the astrologers as well, linking the variety of men to the planets and defining some of them as jolly, the others as solar, martial, venereal, mercurial, lunar or saturnine; and by doing this, in the first place, they pose different typologies of men, in the number of seven, the same of the planets; then divide each category in two minor kinds: according to the planet under whose dominion a man is placed, he will be strong and lucky or weak and unlucky; and they infer a typology from Mars, when he is correctly placed, and another from the same, when is not so.

In Sennert we find again a mechanistic conception of the temperament, with a criticism towards those who, researching philosophical explanations as regards the nature of the same, cannot even considered physicians: “the physician obtains his principles from physics and has no other principles than those taught by physics and so, if he states something opposite to the principles of physics, does not tell the truth”. From the text it can be inferred a conception of a well-balanced temperament arising from a disposition and reaching the most adequate expression when it is present in a certain amount (weight). We are talking about a triple nature (origin) of the same temperament, the one peculiar of the structure of the body, the other peculiar of the “vitality” of the body, the last one of the blood fluid: “In man there lies a triple temperament, the first is simply the bodily one, that sometimes remains also in a

corpse, for as long as the body remains integer; another is the one inherent to the living parts and that, through the in borne warmth, remains from its very first arising.

Another, in short, is the one that rushes from the main parts, especially from the heart and that passes through the whole body.”

The temperament, or rather the temperaments present in each individual with different expression, would originate from the quality of the elements.

Morborum Theoria⁵⁴

Drowsiness is the result of a slowing down of the functions. The patients affected by a cold sickness, are very often subject to it. The causes of such drowsiness are the languor of the nerves, the thickness of the lymph, a minor glow of the vital spirits, a lack of subtle salts.

The propulsive motions can hardly happen and the brain does not expand enough to sustain the state of being awake and the exuberance of a body, which cannot absolve to its functions. It seems instead, that the opposite happens when dealing with opium or assuming other sedatives, that induce quietness and not sleep. Actually in those cases, the body is warm, it transpires a lot and they rest, although keeping awake.

The others instead, possess a light sleep, are cold at touch and cannot stay awake after having slept, being slower and slower in all of their functions. The humours full of serum and thick, do actually increase, while a sick sleep obscures the brain, weakens the nerves and fills the blood vessels of rather fat clots.

Melancholy is a fearful delirium and springs out of the cold humours. We have shown that the furious and daring *deliria* arise from an inflammation that we proved to be produced by a stoppage of acrid humours, and passing through narrower blood vessels.

Moreover, we believe that these *deliria* might arise from a sooty, thick and livid vapour, which reaches the upper parts of the brain: in fact the corpuscles that exhale from it, attack the brain for as long as it is present and slow down the cognitive functions of thought, presenting to the mind the same things with more care and scruple and doing so, almost fix the ideas of the slow thoughts.

And when these fearful images are offered to the senses, to the Conarion and to all other places deputed to the reception of the ideas, they

fix extraordinarily, upset the senses, inspire fear and alter every condition of the body.

And melancholies differ according to the form of the outflows that provoke, so to speak – sooty soils and carry with them, coming from different parts of the body, some sour salts or tending to sourness.

The cause of melancholy might easily come from the abdominal area. The ancients said that the spleen was the dwelling place of this illness, whereas many doubted or refused that only this organ could possess this faculty and all of them, on a conjectural or superficial basis. Certainly, the proper seat is not circumscribed by narrow limits, known to date, and from this place arises the sadness of the mind that extends to the body. And the abdomen, that produces plenty of salty lymph, that easily turns to a poignant sourness, might be defined, not erroneously, the source of the cold illnesses of this sad effect.

And it seems that confirm this its tender vessels, the reactions they show when containing the humours, that hasten to serious alterations.

Indeed, to what changes are subject the ventricle, the spleen, the pancreas, the mesentery, the loins, the bowel, due to the liquids swallowed and the ingested foods? Which motions, borborygmus, resonant grumbles, noisy flatulence, annoying stretchings, harassments and other symptoms that afflict us extraordinarily do not cause to us the vapours that arise from the above-mentioned changes, while they ascend to the head?

Indeed, the mind, devoid of its sense, due to the serous, acrid, sooty and thick vapours, when the body is numb, because the nerves are besieged by the vapours and made flabby and weary, it worries for its own sake and for its own physical disposal that, from every part, disgraces for it and a life of concerns are coming. From this, fear comes out.

The different conditions of the air, that knock down are functions and our thoughts, confirm us that these facts may and must happen starting from sooty abdominal vapours, that wickedly bring about clots of earth.

So, when the weather is fine, we are more lively, and when it is cloudy we are weaker, during summer and spring we are ready for anything, while in winter and autumn, above all when they are cloudy and rainy, we are duller.

Thus, the warm and temperate regions, if they ring about a cleaner air, they produce very sharp brains, disposed to joy and boldness, to daring and arrogance; the cold regions, instead, provided of an heavy air, they generate witless brains, prone to melancholy, dullness and servility.

Moreover, these effects may alter in infinite ways by means of studies, worldly experiences, life habits, breeding, the physique itself, the very many mixture of vapours that hit the

⁵⁴ Jacob Le Mort, *Fundamenta Nov-Antiqua Theoriae Medicae* (See pag...of the anthology for the original text).

inhabitants, leading their living spirits, as happens in the growing of plants and of trees.

I therefore end up saying that melancholy is produced by the abdominal vapours that represent a kind of recess of a very thick lymph, and from vapours that besiege and humidify the nerves and the brain in a colder way and through these vapours, which proceed up to a great consumption of the irradiation of fire of our soul.

All things are sadder and flabbier due to the cold, to the northern winds and to the surplus of clouds, as well as when long rains take place.

Thus, the melancholic juice, the black humour of the ancients, is to be chased away: it is only present, in fact, in illness caused by a poignant acid, that produces slow lymphs, thick vapours and nebulosities, at the very same time in which our inner air, as described before, is polluted and almost filled in every part by these drosses, so that the spiritual rays cannot penetrate anywhere with verve.

They seem to confirm this the dissected corpses, actually in them we notice a great amount of serum issued from the vessels; it fills the abdomen and the chest of those who died cachectic, affected by scurvy and melancholic. The same thing can be inferred by the

disposition to paleness, by livid stains, by the paleness that announces dropsy, by flatulence.

“Melancholy is a fearful delirium and springs out of the cold humours” Le Mort considers slow lymphatic fluids, which from the abdomen rise to the brain, cause of melancholy: “melancholy is produced by the abdominal vapours that represent a kind of recess of a very thick lymph, and from vapours that besiege and humidify the nerves and the brain in a colder way and through these vapours, which proceed up to a great consumption of the irradiation of fire of our soul”.

The density of lymphs and the dimension of the covered vessels would be responsible for the genesis and for the persistence of the slowed thoughts. The Author underlines the influence of the seasonal, the atmospheric and the climatic conditions on mood: “All things are sadder and flabbier due to the cold, to the northern winds and to the surplus of clouds, as well as when long rains take place”.

6. The mechanical explanations

During the XVIII century a relationship between the set of signs of melancholy and the significant denomination was traced, or better a switch will be achieved, because the quality of this cold and black humour will become the most important coloration of delirium, its particular value in front of mania, dementia and fever-pitch, the essential principle of its cohesion (Foucault, 1963). And while Boerhaave still defines melancholy as “a long, stubborn delusion without fever, during which the patient is always occupied by the same thought” (Boerhaave, 1709), Dufour, some years after, insists on “fear and sadness” that now become the explanation for the partial character of delusion:

Whence it derives that melancholic persons prefer the loneliness and avoid society, what makes them more attached to the object of their delirium or to their dominant passion, while they seem indifferent to all the rest.

In the XVIII century prevails the *iatromechanicism* that imagines the organism like a hydraulic system.

According to the theory by Hoffmann (1745) and Cullen (1712-1790), health and life depend on energy of brain and even more on the action of the nervous fluid.

In this new perspective Herman Boerhaave assigns a new role to the black bile, no longer *noxa pathogena*, humour connected to coldness and dryness, but potentially obstructive mass, factor that eliminates or diminishes part of the blood and induces depression through mechanical and hydrodynamic mechanisms.

The melancholy is defined a delusion without fever associated to sadness and fear that have no clear cause, as it can read in the extensive descriptions of the coeval specialists.

The mechanistic theories proposed in the eighteenth century, attempting to integrate and to reformulate the previous theory of the humours, today can appear both simplistic

and unfounded. Really, the current theories on the transmission of the nerve impulse base itself on the electric conduction of a signal along the membranes of the neuronal cells, on the circulation and on the release of neurotransmitters at the level of synaptic endings, on flows within the axons: certainly they are not rough movements of fluids outstanding even with the naked eye, obstructed by “blocks” or by obstructive agglomerates, but anyway the flow of the nerve information and its alterations partly refers us to those theories that, even if in different terms, in the basic constructs display advanced and perspicacious intuitions by the then Authors.

We emphasize the difference between the delirium with and without fever: the first one is that of the melancholy but also, in another context, of the Schizophrenia and of the Psychotic Disorders on the whole; the second one is that called, in the current nosographic systems, as Delirium⁵⁵.

Gherhard van Swieten (1759) recovers the classical distinctions. The main characteristic of the teaching methods adopted by him consists in his insistence on thorough bedside diagnosis, with the taking of meticulous case

⁵⁵ Delirium, also called acute confusional state and acute brain syndrome, is a sudden state of severe confusion and rapid changes in brain function, sometimes associated with hallucinations and hyperactivity, in which the patient is inaccessible to normal contact. Symptoms may include inability to concentrate and disorganized thinking evidenced by rambling, irrelevant, or incoherent speech. There may be a reduced level of consciousness, sensory misperceptions and illusions, disturbances of sleep, drowsiness, disorientation to time, place, or person, and problems with memory. Delirium can be due to a number of conditions that derange brain metabolism, including infection, brain tumor, poisoning, drug toxicity or withdrawal, seizures, head trauma, and metabolic disturbances such as fluid, electrolyte, or acid-base imbalance, hypoxia, hypoglycemia, or hepatic or renal failure.

notes, which were continued during the subsequent follow-up of the patient's response to treatment. The treatments themselves were still primitive enough: bleeding, blistering, purging, and other techniques of ancient origin, coupled with the new and fashionable electrotherapy, in which electric currents were sent through the body in the vain hope of restoring normal function to the malfunctioning organs (Forrest, 2004). We propose afterwards a selection of anthological passages of the principal exponents of this cultural current: particularly there are texts on mania of van Swieten, of Bellini, and Hoffmann for a synoptic reading.

On Melancholy⁵⁶

That disease, in which the patient raves without fever at length and tenaciously, always obsessed by a same idea, by the physicians is named melancholy. The reason of the name becomes clear by itself: ἀπὸ ὀ μελαίνης χολῆς, ab atra bile (from black bile), like this is named that disease, because the origin springs from that bad weather of the blood and of the humours that the Ancients named black bile, or also because those suffering from this disease evacuate the black bile with the vomit or with the faeces, like Aurelianus observed (Lib. I. Cap. VI. pag. 339). We will also describe, in this paragraph, the signs from which melancholy can be identified and be distinguished from other illnesses. The delirium is present, while the origin of the ideas does not depend from external causes, but from a mutated internal disposition of the brain, born beyond the command of the brain; of this nature, seem the characters of which has been said in paragraph 700, where the feverish delirium was treated. The delirium of the melancholic ones differs from "Frenetidis" and from the Feverish Delirium that occurs when the fever is almost over, yet persists for a long time and tenaciously, for months, even for years; moreover the delirium with fever quickly leads into healing or death.

It distinguishes itself from mania, because does not come with that violent fury we can observe in manias: still, the melancholy when it becomes worse, degenerates in mania, as we will tell better in chapter 1118.

The symptom allows the diagnosis of melancholy is that all patients are always focused on one and only thought and the rave almost only on that opinion; in all others, the show a sane mind and often a rather acute brain.

In the delirium that comes with fever, the raves have different themes and frequently changing, it is rare that they wander tenaciously on the same subject; and when it happens, is when someone's illness is very serious when a known cause alters the common sensitivity, it remains fixed in that place: it seems that Hippocrates called those patients *μελαγχολικῶς ἐξισαμευῶς*, since it is legitimate to name them frenitics; yet, they rave eternally on the same subject (Coac. Praenot. N. 95. 96 Charter Tom. VIII. Page 857); he inferred so a bad prognosis: it does not appear that Hippocrates did not know the black bile delirium, since in previous and following texts he speaks of frenitics and raving with fever.

Aretheus with merit gave the following definition of melancholy:

"it is, then, an anguish (ἀθυμία) focused on just one thought, and devoid of fever" (De caus. & sign. Morbor, diuturn. Lib I. Cap V. page 29). And in the meantime, a little further, he adds that sadness and pain of the soul accompany melancholy. Even for the old physicians, it seemed that, in the common symptomatology, fear was attached to gloom (De Melanch. Ex Galeno, Rufo & c. Libell. Cap. I Charter. Tom X. pag. 497).

Gloom is often numbered among the signs of incipient melancholy (par. 1094); still, it seems that this is not always and definitely true: actually, the melancholic one mentioned by Oratio (Epist. Lib. II. 2.), who seating alone in a theatre believed to hear wonderful tragedies, and only in this raved, keeping correct habits in all other living functions.

On Mania⁵⁷

If melancholia rises in such a way to determine a great flutter of the cerebral liquid, and takes the patients to a merciless fury, we call it mania. Mania takes his name from μαίνεσθαι, to grow mad, lose sense and usually follows a long melancholia, though sometimes it may have other causes, as we'll see.

Moreover, this merciless fury due to which these patients try and hurt themselves and the others, it distinguishes mania from melancholia, in which some patients are sad and lunatic but not turn to fury yet. Mania distinguishes itself then from ferocious and constant delirium of the frantic, because a sharp and continuous fever comes always along with their frenzy, while the persons affected by mania have no fever.

This was clearly noticed also by Aretheus, who poses the following definition of mania. (Mania) is in fact, a total, continuous alienation of the mind, without fever: indeed, although

⁵⁶ Gherhard. van Swieten, MELANCHO-LIA § 1089 (See pag...of the anthology for the original text).

(See pag...of the anthology for the original text).

sometimes fever manifests itself, this is not due to fury, but to some other cause.

Mania⁵⁸

Forerunners

A physical temperament which verges to bile and melancholia, the male sex, summer and autumn, these things encourage the rising of Mania: and the one who has a strong pulse in the arm, he's the one who easily falls in a premature rage, while he who possesses a calm one, is phlegmatic and somehow numb, as Hippocrates says.

2. de Morbis Vulg. Sect. 5.

The symptoms that anticipate mania, are constipation, as during haemorrhoids, menses, fistulas, ulcer, varicose vein, protract sadness, apprehension, restlessness, bursts of rage, torments. And these symptoms are the distant ones.

Mania is anticipated more closely, by a tireless headache, a restless activity, very short and light sleeps, a troubled insomnia, annoying cares and anxieties, fears which move out of a trivial cause, a hasty and frequent rage about nothing, or for a neglectable reason, lightning that crosses the eyes, noises in the ears, an unusual leaning for sexuality, more frequent nocturnal pollutions, laughing more than of consuetude and reason would suggest, an uncommon and almost non-stop loquacity, or a thoughtful quietness.

Moreover, an almost impending Mania, which follows closely, is anticipated by a delirium, or, else, by a melancholy justified by a light cause and at the same time, an ill-timed and coarse laughter; and he who before was mild, for a trivial cause inflames, being deeply upset in the soul and with a grim stare. The pulse is vigorous, the urine very red, due to a subtle sediment, with scraps gliding, or in a thin nebulosity. A frantic delirium too and an erotic fury, anticipate Mania.

Symptoms, which come jointly

A delirium without fever takes place, and also fury, audacity, boldness, loquacity, quarrels, irascibility, violence against oneself or the others, by means of punches, hands, nails and any other possible way, breaking clothes in rags, putting hands on oneself or to anybody comes within range, whom they attack with a sudden and total assault; their global physical strength is amazing, to the point that sometimes they

can't be stopped by any force, and, even bound by very strong chains, they break them.

Many have eyes filled with blood, a grim and angry look, a state of indefatigable activity for as long as fourteen months, according to Fernelius. Very violent and almost continuous movements, self-restraint from food, steadiness in drinking, a continual and constant hunger and a constant endurance. And they don't suffer, even for a long time, of the winter cold, that is quite intense, and it's even possible that they stroll around barefoot and their skin results warm at touch.

Furthermore, these single symptoms can occur also together with other, less serious, ones: some don't rage, nor lose their temper exceedingly, but, they instead behave more passionless, they become merry, humming, and on the contrary laugh from the heart more and more and immoderately; some behave just like animals, as occurs with canine fever or rabies or lycanthropy, when a man acts like a wolf etc.

Symptoms that follow

If to the ill ones varix and haemorrhoids occur, their insanity will be healed (6. Aph. 21). It's a good thing that from Mania dysentery, dropsy, or mental alienation ensues (Aph. 5).

Copious losses through sweating, diarrhoea, nasal bleeding, or haemorrhoids: tertian or quartan fever: these, separately taken, are salutary. Consumption and spasms, are deathly. If these symptoms are lacking, death simply intervenes after a long while, due to the extreme weakening of strengths. Those who recover from this disease remember what they did during the illness.

Since the Insane ones for many months, years and sometimes through all their life, are bound to this illness without being assailed by fever, in this case the cause that produces Insanity, either does not mix with the blood, or, if mixed, the blood is so thick that it can't liquefy through fermentation or so fluid that it's not enough to cause obstructions, or both things together.

The cause of Insanity is mixed with blood

From the other properties of Insanity, it's apparent that the liquid of the nerves is involved and surely the foremost cause of Insanity is to be located exactly in this: indeed, if this same cause didn't mix with blood, it wouldn't be possible that some of the liquid of the nerves might mix with blood.

Since, indeed, in Insanity, due to *deliria* and violent motions a continuous and abundant emission of spirits takes place, and since it's necessary that these ones pass through the veins and the arteries, it is necessary then, that they pass through the blood or that are mixed to the blood itself.

⁵⁸ Lorenzo Bellini. On urine and wrists, on the rushing of the blood, on mental and cardiac illnesses. Mental illnesses. (See pag...of the anthology for the original text).

Furthermore, it mingles to the blood too, the lymph that sometimes flows again from the nerves; then, in Insanity, if the fever fails for a long long time, the cause is to be found in the blood: for this reason, it's necessary that, in Insanity, does exist a physical constitution of the blood such to make the substance in the blood so fluid and thick as well, that from this cause, mixed to Insanity, it can't spread in the fermentation that gives origin to the motions of the fever, nor, if it is thicker, can't occlude the capillary vases, from which the fever similarly originates. Or, what is equivalent, a blood fluid and thick as well.

How the blood of the Insane ones must be

Since, indeed, the blood can't be fluid and thick at once, unless it's not made of miniscule particles, so tightly joint that they can't be split by any force. However, with hardship or not even through that, two whichever of these particles could be attached (it will happen, in fact, that whatever may be contained in the single particles, it could not part, that is to say, the blood might not fermentate and nevertheless it will be fluid, since the single particles are very small and they don't adhere to one another); in Insanity, then, the blood will have to be disposed in such a way to contain hard, dry particles and without having two of them attached.

Also, established that the blood is suchlike, it will necessarily happen that these very subtle and movable to the highest degree particles, not slowed down from anything but from the liquid and the yielding parts, they'll run loose and wander freely through all the substance of the blood; when they'll overstep their motion and their possibilities, there will be a heat of any kind and this heat, however may be, will appear to sting and stimulate, showing any effort to be impulsive.

The bilious and the melancholic ones are the most incline to Insanity, and men more than the women; summer and autumn dispose to it.

From this, appears at once clear that is more incline to Insanity the mixed temperament which derives from bile, and also the melancholic one; in fact, the bile brings about heat: the melancholic humour, as well, thick and dry, it promotes sternness and the thick nature of the blood: from this, men are affected, more than women; actually, they are hotter and their humours more substantial; summer, for the same reason and the autumn too, which supervenes, for it dries withholding the heat.

Some suffer from constipation.

So, it may predispose to Insanity the constipation, provided it might hold back the substances and stop the humours: not mixing

them with the sticky moist that withholds the heat, but through exsiccation and hardening, by which a greater heat is freed and from this derives that sometimes Insanity follows the stop in menses, haemorrhoids, fistulas, ulcers and varix (if there was in them a stagnant blood of the right kind); sometimes vice versa, although of course the substance of the feces can't do the blood any good, with their thickness and dryness.

Affections of the souls. Venoms.

So, an enduring sadness, apprehension and care, bursts of rage provoked by an exaggerate amount of a drier blood, encourage Insanity, because the suitable venoms can overcome it, like the venom of a rabid dog, causing in them a kind of Insanity called Hydrophobia, or the bite of the tarantula, or eating the feline brain or, if other symptoms close to this are passed around, maybe they could be fictitious, but they are partly true.

Also Bellini, Borelli's student, professor of medicine in Pisa, imagined the organism like a hydrodynamic scheme, with the effect on blood flow of the particles of the blood. He carefully described nosodromy of disorders, focusing on the forerunners of mania "a restless activity, very short and light sleeps, a troubled insomnia, annoying cares and anxieties" , with attention to anxious comorbidity, for example to the phobic symptoms "fears which move out of a trivial cause," and to sexuality "an unusual leaning for sexuality, more frequent nocturnal pollutions", together with the classical syndrome "laughing more than of consuetude and reason would suggest, an uncommon and almost non-stop loquacity, or a thoughtful quietness".

1. Melancholy and mania differ only for intensity.⁵⁹

I notice that are many, those who wander how illnesses that, by nature and symptoms look clearly different, should be considered in a single chapter and led to just one kind. Actually, we learn, through a more careful application and observation, that both of these illnesses are determined by the same source and cause, which gathers them, that is, they do not arise

⁵⁹ F. Hoffmann, Caput. VIII, DE DELIRIO MELANCHOLICO ET MANIACO Theses pathologicae. (1745) (See pag...of the anthology for the original text).

from an excessive rush of blood to a weak brain and do not vary, but for the time and degree of the invasion, so that, quite correctly occurs melancholy as the primary disease and the mania as an exacerbation of it, due to a incidental effect. This is what, in a clever way, had also recognized the ancient physicians.

From this Trallianus (Lib. I, cap. 16), argued that mania is nothing but melancholy taken to a major degree, thus, due to such a strict connection it very easily happens the passing from an illness to the other.

Aretheus (Lib. 3, cap. 5) wrote that melancholy makes up for the beginning and the origin of mania, and by increasing more than by any other cause, the latter is drawn to fury. This connection is confirmed by a daily and very careful observation, when the melancholic ones, above all when the illness is deep seated very easily incur in mania, and when this is ceased, melancholy appears again.

Yet, at certain times, fury can come back. And it is not at all different the way to cure them: actually, any physician that turns fairly with wisdom and art to eliminate the cause of melancholia, will also be able to remove mania.

Hoffmann's vision of melancholy and mania was a traditional one, as we can see in the quotations of Trallianus and Aretheus: nevertheless, the alternating of these conditions was referred as induced by mechanical and hydrodynamic mechanisms, related to the blood vassels and physical quality of blood: "the predisposition and the cause of the illness has to be found in the nature and the temperament of the individual, or, more correctly, in a physical mechanism, or better said still, in the circulation of the blood." As regards mechanical and hydrodynamic mechanisms, he cleared in Paragraph XII, "like in mechanical devices, it's worth looking not only to the virtue of what moves and to the degree of motion, but to what is being moved as well, and to the extent of the substance in motion".

On temperament, the basis of habits and illnesses among men⁶⁰

Foreword

If there's one among sciences, nobler and praised for its usefulness by the philosopher as

⁶⁰ F. Hoffmann , De temperamento fundamento (447-451) (See pag...of the anthology for the original text).

well as by the physician, it must certainly be said that this one that deals with the knowledge of oneself and of all the others. To know oneself has always been steadily reputed, since a venerable antiquity, the most important component of wisdom, and not without reason.

What's in fact more extraordinary and nobler than to know the inclination of our body and from it to learn to know deeply the future illnesses, and what is bad and what's good for our health? Even nobler is, starting from that connection that exists between the rushing of the blood and the spiritual strength of the soul, to know of oneself and even of the others, the propensions, the habits, the feelings, the power of the brain as well as the virtues and the vices.

However, although this knowledge can be noble and useful, to date we see it neglected and plunged in the darkness of ignorance. Though it was a virtue of those who teach moral science to examine these things in a sound and skilful way, nonetheless, devoid of background, i.e. of the medical doctrine of tempers, up to this moment, they didn't show anything praiseworthy.

It will be, above all, a task of the physician and of the philosopher, to examine, carefully and wisely the virtues and the vices, or rather, with care and keenness, to investigate the origins of the virtues and the vices inborn in every people, starting from the circulation of the blood, the coldness or mildness of the weather, the nature of the soil, the lifestyles.

I therefore engaged myself in this task, and I will set forth in the current lecture, in a concise and quick, but I believe solid way, that the basis of the habits, of the illnesses and of the differences between the souls, originally lie in the circulation of the blood, or, as the old ones love to say, in one's temperament.

I.

It's beyond doubt that the habits of men are very different from one another and that is also different their leaning for virtue and vices, and there are differences too in the strength of mind. Whoever ignores, indeed, the differences of habits and soul that exist between almost every single man? Who misses the fact that the singles and the nations differ for virtue, vices, habits and temperament?

And it's nothing new that the nature and character of a man, and even his inclination to virtues and vices, modifies with age. The mildness of air and a light and valuable diet inspire the mind well different habits and strength of temperament, than a heavy diet and a cold climate. It is an impressive and highly important fact that the strength of the mind and its inner force change in this manner and arrange and dispose themselves in a varying way according to the different conditions of the

physical causes, a fact that it'll be our aim to investigate.

II.

To comprehend these facts more deeply, I think that it's correct to repeat, almost from the beginning, these things, as they pertain to our job. We know without doubt that man is a mixed creature, id est, is made up of a substance composed of two very different elements, of which one is devoid of any material or immaterial extension, and also aware of things, free in action and judgement and very prepared to get feelings; the other is the organic body, cleverly structured, according to the mechanic-static laws, to provide the so-called vital movements, guaranteeing resistance to the body, otherwise tending to be corrupted.

The most genuine essence of man lies in this deep and very tight union between a spiritual principle and an organic body. And, although the soul might be separated according to its activities, which consist in the cognition, in the judgement and in the freedom of action, from the essence and the actions of the body, that are confined to movement, it nevertheless pleased the Divine creator that the body could receive a lot of feelings from the soul, according to the activity of the latter, and in turn the soul could receive them from the movements of the body, particularly of its flowing parts.

We have an evident proof of the influence of the soul on the movement of the limbs, when, from a certain thought, idea or will, the hands or the feet of an individual produce their own movement in a certain way or proportion. Even the evil or erroneous thoughts of the soul or the passions of the mind and also the impressions of the imagination are a proof of how big a perturbation of the living impulses takes place in the body, or to tell it better, a changing in the structure of the solid parts.

On the opposite, it is certain that the motions of the blood and the humours, motions which depend merely from necessary, phisic, bodily, external causes, from the air, from the ether and from foods, produce in the soul different and impressive sensations, disposing variously of it, and defining its activities, as, by now, it will be our task to illustrate more widely.

These things are placed beyond the limit of the intellect and of human understanding, nevertheless they are absolutely true: how this activity of a spiritual principle related to the body takes place, and how an ideal and immaterial act, as a thought and a reflection, rules, in a determined way and measure, the motions of the solid and flowing parts and how, in turn, the same physical motions can have influence on the activities of the soul and determine them.

III.

We maintained, actually, that in the soul a dual way does exist, through which its ruling, perfection and refinement is started. The first way goes through the immaterial impressions, those that come to existence with teaching, habit, education, and by means of it, is reached the maximum efficiency of these aspects in order to build in a man a firm reasoning and the best habits. The second way, goes through our own body, and its flowing and moving parts, and we'll discuss later on which might be their role in modifying the habits and souls of men.

IV.

There is a nice passage in Hippocrates [I. I. de diaet. §. 21.], worth to be examined in connection to this: *the soul – he says – it's the same in all men: while the body is different in each one, the soul is always similar to itself, it doesn't change in a bigger or smaller one, not by nature and neither by circumstances, whereas the body is never the same in anybody, not by nature and neither by circumstances, because sometimes is different in many aspects, sometimes is similar in many others.*

This wise old man means, of course, that there is one, and just one, essence of the soul in every man and that it's not subject to any material change or corruption, to which, instead, as becomes clear from many signs, the body is undoubtedly subject. The fact that the soul in a person has more marked qualities than in another one, can't be ascribed to education, or to the intellectual faculties of a man or to his own body, the one in which he lives. Hippocrates says it excellently: *It is of great importance in which body the souls dwell, in the body, indeed, there are many things that sharp the mind and many that make it dull.*

V.

It is an ancient concept of the doctors and the physicians that a different nature of the bodies generates different habits. The fact that the habits follow the bodily temperament, was discussed by Galenus in a peculiar little book. It's worth explaining with more care what was indeed meant by "temperament", being it called nature or complexion as well. It must indeed be considered, first, that one thing is the temperament of a mixed body, another that of a living one; the first belongs to all non-organic, unanimated things, the second refers only to the living things with an organic structure and a soul.

Actually, the temperament of a mixed body, concerns only the blending of the elements or the parts that make up the body. The ancients recognized four elements, that we admit too, as long as fire be replaced by a very active ethereal

fluid and were not explained better the primary concretions of those elements, that is to say salt and sulphur, which pertain to the fundamental principles of chemistry.

Therefore the bodies, being made up in a variable way of these elements, are called temperate or intemperate, and capable of producing a cold or warm substance. Things are different, indeed, in the case of the temperament of a living body, for which must be examined not only the material or the mixing up of the elements, but rather its own motion, outwards as much as inwards, and the impulse of the solid parts that accomplish the life of the aforesaid motion.

Actually, without these things, life could not exist and, if they fail, life ceases. When the ancients mention nature and temperament and assign certain effects to them, this can be ascribed to the circulation of the blood and the humours that takes place through various and minute small tubes of our body. That motion, to which, as to a spring, must be ascribed all the substances present in our body, it's very important. In this the entire nature and the functioning of the individual body consists.

VI.

Having conveyed this way the concept of human temperament, it will be easy, by now, to understand that superior medical and philosophical criterion: such the temperament, that is to say the circulation of the blood and the fluids, such the habits of the soul, the inclinations and the strength of the mind will be. The sage Hippocrates has already given us witness of the fact that the blood affects the mind and our soul, saying [lib. de flat. § 20]: *I think that among all the things that are in the body, nothing affects more the sense than blood, and therefore when this goes on constantly, the sense lingers, whilst if it suffers some change, the sense also fails. We can see it in the drunkards, in which the mind is spoilt by the blood, suddenly increased and in which, with the mind, the sense is hit as well: they appear to have forgotten the present evils and to be full of hope for the future goods.*

And he writes farther on: *I could add other cases, in which the changing of the blood modifies the sense too.* And in the next passage [lib. I. de diaet] is all willing to show that from a good or evil regulation of the body the presence or lacking of sense depends, while adding [§ 29]: *men are wise to the utmost when, inside the body the elements have received a regulation.*

It's worth noticing what hands down Democritus, in a letter written to Hippocrates: The sense in presence of the blood increases and is fairly supposed to hold it galore who reasons rightly. But when the complexion of the body is ill, not even the mind is, in turn, ready to

meditate on virtue: the presence of an illness bewilders with vehemence the mind and leads away the sense. And what's clearer than the fact that due to the fever or to an amount of an exceedingly alcoholic wine, the human reason is disturbed and sense temporarily fails and many diversions of the intellect take place.

VII.

To enlighten even more the question, it's worth knowing that the soul rules its activities according to the impressions that it receives from the blood circle, to the point that can be observed a certain conformity between the motions of the blood and those of the soul.

In the bilious one, who feeds in the veins a light and warm blood, this blood, until it circulates rapid through the membranes of the brain, predisposes his mind to all the fast, swift, impetuous actions, for instance to the anger, the audacity, the impatience, to the rashness, to the brawls, to vehemence in loving and hating, to abruptness in saying and acting, to rebellion and all other similar things.

When, on the contrary, a oily and thicker blood, in the so-called melancholic individuals proceeds through the vases of the membranes of the brain with great impediments, difficulty and slowness, the mind generates ideas that produce a fit reaction and so they are upset, scared, sad, slowed down in absolving their tasks and, when expressing an opinion are always slow, anxious, suspicious, distrustful and they easily despair of the positive outcome of things.

Moreover, they are surely inclined to fear and awe, because all the above-mentioned affections try to match the slow and languid motion of the blood. Things go differently in those bodies in which the blood rushes, well tempered and flowing, sweetly and with no obstacle or impediment, then passes through the fibres and the vases and runs across the recesses of the brain. This motion of the blood makes men confident and devoid of excessive care or anxiety, to the point that they tend to laxity, to carelessness and ill-considered actions.

Apart from this, they are glad, smiling, quick, merry. Actually the blood that abounds in serum and is lazily spread, makes men idle, lazy, sleepy, torpid, timorous.

VIII.

It's very easy to infer and derive from temperament the origin of vices. We note that haughtiness, arrogance, self conceit, ambition are familiar more than any other thing to the bilious ones, in which the blood rushes to the head with heat and speed, qua the above mentioned affections take place along with some kind of stress and with an increased strength of the mind.

The ones to which, instead, the blood rushes in the fibres and in the senses, quietly and placidly and almost with a feeling of pleasure, they admirably love each thing beloved and welcomed by the senses, and that's why they thoroughly seek, in feeding and clothing, pleasures and voluptuousness, they are attracted by sex, they appreciate the shows, the games, the music, the sweet and enjoyable foods and the excellent wine.

In those, in which on the contrary, the flowing of the fluids through the fibres and the vases is slow and difficult, it usually rules a lasting pleasure in preserving their possessions, which is known as greed. By now, it will be clear, from what has been said, the reason why greed is a vice very familiar to old age, pleasure to young people and ambition to adult age. It's no secret for any physician that in old people the blood is mellow and thick and advances slowly, while in the young ones, it is fluid and easily flowing, and in the adults impetuous and fast.

IX.

Having therefore examined the three main causes of vices, according to the variety of temperament, we must then discern if the strength of character may originate, in a similar way, from the same basis. And surely this thing is under everybody's eye. We notice, of course, that are more apt to studies, to understand, discover, tell things in the quickest way and, thus, of a truly excellent intelligence, those who nourish in the body a thin, vivid blood, able to move with enough quickness and vigour, as it's natural for the ones who easily have a panorama of the things that lay as foundations of sciences, and, in their turn, find them and know how to combine them together.

They lack of a similar intelligence, though on the contrary have a good wisdom of judgement, the melancholic ones, which have in the brain a much slower blood motion.

These, actually, even if they have fewer ideas, they have, however, more persistent ones and they compare and consider them, conversely, with more care and patience and eagerness and in this the true nature of the wisdom of judgement consists.

Not unaptly, hence, the ancients have said, and formerly *Aristotle* too, that the melancholic ones are very wise. They have plenty of memory, although those which we call sanguineous or phlegmatic enjoy a smaller wisdom of judgement. Memory or storing up ideas in fact, take advantage from a well-ruled brain, i.e. temperate by a sweet soaked juice, drenched, that's why the wisdom of judgement, which lies in dry places, it's not noticed in them in a high degree.

By now, it will be very clear from what has been said, the true reason why the melancholic

people are the more incline to those disciplines that require judgement, patience, diligence, that is to say, the science of numbers, the study of the natural philosophy and medicine, of the most advanced theology and mysticism, to give advice in war and peace, to the administration of law.

It becomes clear, from what has been said, in turn, the reason why the bilious ones are the more apt to perform physical exercises, to apprehend military disciplines, to fights, to polemics, to express doubts, to reform their doctrines, to write books. The sanguineous fellows, due to the productiveness of their memory, learn quickly many kinds of languages and are very suit to deliver perorations and speeches.

X.

This doctrine can be applied, in many cases, in the administration of the State and in politics as well. Acts wisely, in fact, the government which puts a melancholic person as a leader of political matters and assemblies, things that can be organized thanks to a evaluative, decision making, and managerial skill. A bilious person will be suiter by far to take care of embassies, to the assignment of military commander, to the office of retore and orator. The sanguineous fellows will be suiter, on the other hand to courtly life and politics, as utterers and doctors in history. The phlegmatic possess a serous blood, deprived of agility, and they are therefore very unfit to studies, to the virtues of the brain and the noble arts and from this follows that they must be confined to the militia, to servile jobs and raw manual arts.

XI.

It's appropriate by now to study in deep with care, according to the above-mentioned temperaments the evil and good habits and vices. We observe in fact that melancholic people are taciturn, capable of keeping a secret, yet stubborn and suspicious, severe in their habits, lovers of sedentary life, they flee from acquaintances, avoid enviers, love isolation and refuse pleasures.

The bilious people are very incline to cheat and deceive others, they are clever, they don't bear easily a chief, are disposed to sedition, to quarrels, enmities; they easily get angry, they long for vengeance and love strongly the ones they love and persecute the ones they hate strongly as well.

The sanguineous people, on the contrary are very incline to luxury, to pleasures, to pile up money, they forget about offences, they are compassionate, mild, good-humoured, sweet, and in their conversations are erratic, light, peevish, longing for news, they propagate secrets, drink, gamble, are sex addicted, they are

not suspicious and trust easily the others. The phlegmatic ones are sneaky, timorous, sordid, cruel, suspicious, do not love awards, of a low and vile disposition.

XII.

Until now, we have examined the habits and vices, as far as their rising from a quicker or slower, temperate or weaker, motion of the blood, is concerned. Indeed, like in mechanical devices, it's worth looking not only to the virtue of what moves and to the degree of motion, but to what is being moved as well, and to the extent of the substance in motion. And, beginning with this, it will not be reckless to describe the effects of the circulation of the blood, effects that come from the abundance or the shortage of the blood itself, and modify the moods.

Actually, the behaviour and the effect of this motion, is the most different, where there is a greater amount of it and a bigger mobile mass, compared to where a smaller amount does exist, and, therefore, from a copious motion of the blood a certain spiritual virtue is generated too, while a different one is born from a reduced motion. That is why we observe that if the bilious person abounds of blood, that all of his actions are more intense and more ineffective.

That's why, are enhanced in the mind the strength, the vigour, the animosity, the virtue, the goodness and the soundness, and they cease if the amount of blood in the veins is smaller.

In the melancholic people a more copious and thicker blood, adhering tightly to the small winding ducts of the brain, produces a greater firmness of ideas, a deeper speculation on things and a greater steadiness, or better still, tenacity; whereas, if the amount of it is more exiguous, fear finds place.

In the sanguineous people, passions enhance more and more with the enhancing of the blood, while its shortage makes them timorous, weaker, uncertain and fickle.

XIII.

It teaches us further experiencing the fact that, proceeding with age, which alters in an amazing way the fibres of the body, which are a medium of motion, many changes take place, not only in the body, but in the habits, the inclinations, the virtues and vices as well. Usually, the first part of life has many attitudes in common with the phlegmatic and the sanguineous people. Children and young people, in fact, enjoy pleasures and don't have any care, they indulge in sleeping and lazing around, are negligent, incautious, love sweet things and enjoy a good memory.

Their mind is quick; in fact the fibres which engine the solid parts, and push the fluids on, are less tense and wetter and, indeed, the blood

is bedew of a serum and is sweet, tempered, flowing. In the young and adult age, the amount of spirits increases, the bitterness of the humours appears and the fibres of the muscles result narrower, drier and more sensitive, and from this they obtain to push more vehemently the fluids.

And, due to this, in this age ambition usually rules, together with the ardour of the soul, the vigour of the brain and the aptitude to action, boldness and arrogance.

The old men, instead, due to the stiffness and stillness of their fibres, and because of the fatness of the humours, possess a slower blood circulation, and from this comes from their being fearful, tenacious and greedy; they love sedentary life as well, disdain pleasures, abound in wisdom of judgement and suffer from insomnia.

XIV.

But, as a matter of fact, it's not only age, which changes the habits of men and imposes a great difference to the body, but the air too, and certainly a different diet as well generates in the mind different habits and inclinations. And from this it was born the right observation that not only the bodies, but also the habits and the minds of the people differ deeply among according to the different areas and regions of the world.

To support this opinion, it is correct, at this point, to relate what extremely famous men think about that.

[Veget. 1. I. c. 2.] he reports that *the regions of the sky have a great influence not only on physical strength, but also on the spiritual one.* And, not unlike what Baldo says [J Cti]: *and the human brains become worse or improve according to the disposal of the air.*

It refers to this [Curt. 1. 8.] *everywhere the place moulds the wit of men and* [Polyb. 1. 4.]. *So it's established that we are similar to the place in which we live.* And Aristotle [Problem. 4. §. 14.] *of an excellent climate profits not only the body, but indeed the intelligence as well and all the departures modify not only the physical temperament, but also the mental one.* Seneca [Helv. 1. I. c. 6.] *The human brains conform to the climate.*

XV.

It's very appropriate that the air, which changes with the climate and the regions, has so much power in modifying the brains and the bodies. The air, in fact, as Hippocrates correctly writes [lib. de flat. §. 4.] is, as far as regards all the things that happen to the body, the ultimate author and cause, since is the spirit for which we live and, as Hippocrates says, gives to the limbs feelings and motion, while to the heart it donates wisdom [lib. de morbo sacro §. 8.]. In

fact, that material principle which moves the limbs and the muscles of the body, it's nothing else but that elastic aerial-ethereal fluid of great effectiveness, of which no living being can do without.

Such, therefore, the air, such the spirit of the body, the movements of the solid parts and of the fluids, will be. A pure, serene, clear, temperate air produces a temperate motion of the blood and induces a fair constitution of the body. An air too cold and still makes the humours consolidate and stiffens the solid parts, and so produces strong bodies. An air too subtle, rare and hot, dispels too much the dampness, dries the fibres and makes the bodies weaker and drier. A cloudy sky and a heavy air produce impurities of the redundant humours and languor in the movements.

XXXVII.

We notice in a very clear way, from what we've said before, that the predisposition and the cause of the illness has to be found in the nature and the temperament of the individual, or, more correctly, in a physical mechanism, or better said still, in the circulation of the blood. Indeed, someone could express the doubt that there are many people that possess a certain temperament, but to find some of them, which suffer of a certain illness, is more rare.

To which we respond, that surely the temperaments dispose to these illnesses, but from this, seldom ensues that the effects follow closely the preceding causes. Indeed, just one distant cause that disposes the body is not enough, but it's necessary that more causes at the same time conspire to produce an identical effect.

Thus, if someone has a bilious constitution as a child, he does not incur in these illnesses, if someone was bilious as a child and he does not expose himself to hot air and warm foods, not even then he incurs in the illnesses of the aforesaid temperament.

If, instead, to the above-mentioned temperament a hot climate, ardour, young age and the use of warm things will be associated, it won't be possible to avoid the illnesses that usually come along with this temperament.

XXXVIII.

Finally, from all that we have reported it will be very plain to understand that, also keeping in mind the nature of the places, of the temperaments and of the kind of diet, that the same medications must be used in a certain way in case of an excessive abundance of blood, if the motion of the blood is precipitous and vehement, and in another, if it is slow and weak; in a way in Gaul, in another in Svevia, in another still in Germany. Those who assume fat

and solid foods must be treated in a certain way, those with a softer diet in another.

It's apparent from this that those who boast an universal medicine, don't understand the nature of our art, but they must be certainly numbered among the raw and the cheaters, since the nature of our science and art lies in distinguish the nature of men, the causes of the illnesses and the power of the remedies; and order them and wisely rule their use, according to their differences.

In the proem Hoffmann imputes to the physicians and to the philosophers the task of occupying themselves "to investigate the origins of the virtues and the vices inborn in every people, starting from the circulation of the blood, the coldness or mildness of the weather, the nature of the soil, the lifestyles." In paragraph VIII he asserts, in a deterministic way, that "it's very easy to infer and derive from temperament the origin of vices. We note that haughtiness, arrogance, self conceit, ambition are familiar more than any other thing to the bilious ones, in which the blood rushes to the head with heat and speed, qua the above mentioned affections take place along with some kind of stress and with an increased strength of the mind."

Even in paragraph XI the Author narrows the space of the morality, when he affirms that he wants to investigate the relations "according to the above-mentioned temperaments the evil and good habits and vices". Melancholic are capable of keeping a secret severe in their habits, bilious are very incline to cheat and deceive others, they are clever, they don't bear easily a chief, are disposed to sedition, to quarrels, enmities, the sanguineous contrary are very incline to luxury, to pleasures, to pile up money, they forget about offences, they are compassionate, mild, good-humoured, sweet, and in their conversations are erratic, light, peevish, longing for news, they propagate secrets, drink, gamble, are sex addicted, they are not suspicious and trust easily the others. The phlegmatic ones are sneaky, timorous, sordid, cruel, and suspicious; do not love awards, of a low and vile disposition.

XXXIII. Until now we examined that the fundamental manner in the circulation of the blood and in his movement is polished; now the

rule of the teaching demands that we explain, even if in a few words, why a different circulation of the humours predisposes also to the same diseases. And starting from the choleric, or instead from those having a fast and raging circulation of the blood, it is manifest the practical observation that they are inclined to diseases similar by nature, precisely wedded to the impetuosity, for example toward the tertian fever, continuing, intermittent burning biliary and choleric, later toward the inflammations, the pleurisy, the erysipelas, the delirium, the angina, the ophthalmia, the nasal haemorrhages, the haemoptysis and then the exhausting phthisis, the inflammation of the liver, of the ventricle and of the bowels. These ones are predisposed to the vomiting, to the diarrhoea, to the biliary colic, to the purpura, to the rheumatics, to the sharp headache. And because in the youth and virile age, similarly in the very warm and southern regions, due to a hot and savoury food and due to drinking wine, certainly a similar fast circulation of the blood is acquired; from this derives also that both the youth and the virile age and a very warm climate and a similar food arrange the bodies to the same diseases.

XXXIV. Melancholics, in which the dense blood moves with difficulty, are inclined to chronic diseases, which are facilitated by such a cause, precisely by a slower advancing of the blood through the head, the viscera and the abdomen. Therefore they incline to the hypochondriac disease, to the obstructions of the liver and of the spleen, to the occlusion of the glands and of the viscera, to the scorbutus, to the ulcers, to the alvus reduction, to the kidney stone, to the fixed and nodose podagra, to the melancholy, to the hidden and re-entrant haemorrhoids, to the migraine, to the black icterus, to the dry scabies, to the herpes, and to the spasmodic hysteric anguishes. And Northerners also are debilitated by the same diseases and by the advancing age indeed, whereas those who consume hard and fat nourishment and take delight in sour food are not debilitated.

XXXV. The sanguineous temperaments by reason of the temperament, the blood movement, a too lavish nourishment, a sedentary life and various carnal pleasures, collect an exaggerated plenty of blood, that cannot move adequately, by the multitude of the blood vessels, by the fragility and by the laxity of the muscle fibres.

For that reason in them arises the blood stagnancy, and they suffer exactly from inflammation of the eyes, from pleurisy, nephritis, PERIPNEUMONIA, empyema,

abscessus, APOSTEMATA, nasal haemorrhage, phthisis, lumbar pains, haemorrhoidal flow, pains derived from calculus of articulations, headaches, odontalgia, earache, humid scabies, fevers, SYNOCHAS of the blood, apoplexy and asthma. And similar effects are observed in those who live in a lavish and immoderate way and dwell in temperate regions.

XXXVI. The phlegmatics, in which the movement of the blood is weak and languid and in which is in the veins serum more than blood, are inclined to catarrh, rheumatism, coryza, alvus flow, *ἀωσψίον*, disease of the colic, sphacelation, cachexia, anasarca, hydrous ascites, to the quotidian, putrid, verminous, petechial fevers, to the spirit deficiency, to the lymphatic apoplexy, to the paralysis, to the swelling of the glands, to the serous flows, to the epiphora and to the lachrymation of the eyes, to the putrefaction of the genitals, to the gonorrhoea, to the pale menstrual flow. The childhood, the very wet air, the dense and thick sky, full of fumes, the wet diurnal storms and the inactive life favour these diseases.

Also the temperaments for Hoffmann are determined by mechanical and hydrodynamic mechanisms, connected with the conditions of blood vessels, with the physical features of the blood: Melancholics, in which the dense blood moves with difficulty... The sanguineous temperaments by reason of the temperament, the blood movement ... collect an exaggerated plenty of blood, that cannot move adequately, by the multitude of the blood vessels...Phlegmatics, in which the movement of the blood is weak and languid and in which is in the veins serum more than blood.

The temperaments are considered useful predictors of the behaviour and of the diseases, but a role is assigned also to the education in determining the behaviours and the way of experiencing of the man. A merely mechanistic view, about the genesis of the temperaments and of the frame of mind, based on the dynamics of the body fluids, shows up.

However, the description of the temperament is always very similar to the classic descriptions. In 1751 Albrecht von Haller (1708-1777), commenting on Herman Boerhaave, thus outlines the phlegmatic.

895. Phlegmaticum quoque depingitur glabritie cutis majore; pilis albis, tenuibus, tarde crescentibus; albedine, tumore, mollitie, pinguedine corporis; venis angustis, latentibus; hic videntur vasa sanguinea angusta, lateralia vero latiora conveniunt frigidis (891); unde et his humida, atque frigida maxime obsunt; juvat quidquid calefacit, roborat, siccatur.

The phlegmatic person is depicted as endowed with a bald skin, of soft and white hairs, that grow slowly; and presenting paleness, bagginess, softness, fatness; of narrow and hidden veins; in it thinner blood vessels are visible, while the side ones result wider when it is cold; from this follows that the wet and the cold are extremely harmful to these subjects while they profit of anything that may warm, strengthen or dry them.

The temperament is bonded to the humoral theory, only for the employ of classical terms with poor conceptual reference to humours. After receiving contaminations, over the

centuries, from different perspectives the temperament theory is going to entrust to the Kraepelin's systematization .

7. The nosology of eighteenth century

In melancholy is emphasized the “intensity of idea”, a *délire exclusif*, a monothematic delusion. The mind, even if in the poverty of themes, is fixed strongly to certain contents and – like Berrios (1996) writes – melancholy is within delusional diseases.

Says Pinel (1745-1826), the father of moral treatment:

It consists in a false judgement of the sick person about the state of his body: he believes to be in danger for unfounded reasons, so he fears that his things will have a negative outcome.

Philippe Pinel, 1801

Yet still subsist metaphysical positions, whose main supporter was Heinroth (1773-1843) (1818), which associates to a rather good and detailed clinical description of melancholy (“theory of forms”), the relative speculations (“theory of essence”) on evil, or “spirit of evil”, that would be the real nature of psychic disturbances. Faithful to his coeval tendency toward a complex taxonomy oriented on symptoms, he does not fail to distinguish various subspecies of melancholy, mixed and variegated forms (Muller, 1980).

There is interest, then, in the relations between temperament and illness, in a perspective where temperament is not any longer a bodily constitution, but it refers to characteristic psychological dispositions. Chiarugi (1789-1820) in his last century solves the relation between temperament and depressive illness, giving importance to features of character, to the apprehension and to the relevance of passions (humour), anticipating a multifactorial perspective:

The Melancholic therefore is so persuaded of reality of his ghost and of reasonableness of his judgements that he cannot become disenchanted and expels the idea that makes him rave (432). Those spirits and those bodies, naturally susceptible, generally at same time are “the most inclined to melancholy” (440) in the persons

with a serious, thoughtful and exceedingly reflective; in those brought up among the superstitions and the errors of the common people, in the idiots, and in those with a lively emotion, in those who at last have been tyrannized violently by the passions, the seeds and the elements of those sick persons, whom we are talking about now, are observed (442).

Vincenzo Chiarugi, 1794

Esquirol (1772-1830) criticizes the scientific employ of the term melancholy, too much frayed by the popular language, and designs with the term *lypèmanie* or sad monomania (partial insanity) that

chronic delusions which are fixed on specific topics, in absence of fever, with sadness.

Jean-Etienne Dominique Esquirol, 1820

He emphasized the role of sadness in the development of melancholy, a matter of mood and not an impairment of intellect. Nonetheless he maintains the term at least for melancholic temper, a type where “hepatic system prevails”. Employing previous terminologies and going back to Pinel (“*mélanconie avec délire*”), he introduces the two new concepts of monomania for “*mélancolie maniaque*” or also “*mélancolie compliquée de manie*” and *lypèmanie* (from *λύπη* = sadness) for the ancient melancholy in narrow sense (“*la mélancolie des anciens*”).⁶¹

The *Folie circulaire*

In 1854 on *Bulletin de l'Académie Imperiale de Médecine* are published at the same time two historic contributions by J.P.Falret, *De la folie circulaire*, and by J. Baillarger, *Note sur un genre de folie dont les accès sont*

⁶¹ Following Alexander of Tralles and Boerhaave, melancholy (and lypèmanie) was only the first degree of mania.

caractérisés par deux périodes régulières, l'une de depression, l'autre d'excitation. So Falret (1794-1870) and Baillarger (1809-1890) introduced the longitudinal aspects of the course in the definition of the affective disorders, that afterwards will be consecrated in the conceptualization of manic-depressive illness by Kraepelin.

Falret coined the term *folie circulaire*, and described the cyclic succession of melancholia and mania in the same patient.

Neither the excited state nor the depressed state was a fully developed state of derangement of the sort ordinarily associated with mania and melancholia

Pierre Falret, 1854

Baillarger wrote:

The existence of a distinct and separate illness with both melancolic and manic phases, and characterised by regular period of each. He termed this disorder *folie à double forme*. It occurs like isolated attack, or recurs in an intermittent way, or the attacks can follow one the other without interruption.

Jules Baillarger, 1854

Also Baillarger and Falret drew on very old concepts. A century before, in 1732, Allen, repeating the idea of Alexander de Tralles, wrote:

Mania cum melancholia talem habet affinitatem, ut non raro mania in melancholiam transeat, et intia melancholiae frequenter maniacum quid habent, ut observavit Dodonaeus; ideoque in eodem capite tractandi sunt hi duo affectus.

J. Allen, 1732

Kraepelinian classification, initially not far in the *Treatise* of 1883 from Esquirol's approach, will make way for a nosology founded on the concept of chronological evolution of the clinical picture; after the kraepelinian synthesis even the problem of the aetiopathogenesis of melancholy and mania, whose solution in the classic period was implicit in the literal meaning of the word, will coincide with the problem of the endogenous.

8. The legitimation of melancholy and mania by Kraepelin

Kraepelin's master, the physiologist Wilhelm Wundt, already theorized that temperaments could not simply be limited to the bodily fluids (1879), describing two dimensions of temperaments: "speed of variability" and "intensity of emotions". He believed that no individual was completely of one

temperament; rather that everyone typically has varying proportions of two or more. All four temperaments were basic dimensions of the human personality and the temperaments fell along axes of "speed of variability" and "intensity" of emotions.

Table 8-1. Dimensions of temperaments in Wilhelm Wundt

| | | intensity | |
|----------------------|------|-------------|------------|
| | | strong | weak |
| speed of variability | fast | choleric | sanguine |
| | slow | melancholic | phlegmatic |

Kraepelin (1856-1926), in his winning nosographic systematization of major psychoses, legitimized the old terms of melancholia and mania and described "fundamental states" (the manic-depressive temperaments):

On the grounds stated we consider ourselves justified in incorporating in the group of manic-depressive "fundamental states"⁶² of our description besides, those morbid phenomena, which appear in the attacks, those disorders also which on the one hand frequently accompany the "free" intervals between the attacks, on the other hand characterize the manic-depressive temperament in such cases also in which the full development of the malady is absent. The clinical forms, which would here perhaps have to be kept separate, are principally the *depressive* temperament ("constitutional moodiness"), the *manic* temperament ("constitutional excitement), and the *irritable* temperament; along with these, mention would have to be made of those cases in which moodiness and excitement frequently and abruptly with other (*cyclothymic* temperament).

At the beginning he provided the description of melancholia simplex, melancholia gravis,

fantastic melancholia and delusional melancholia amongst the depressive states. Until the eighth edition (1921) of his *Lehrbuch der Psychiatrie* the Author maintained the involuntional melancholia as a distinct entity. He described this picture as a "depression with fear, with various delusions of self-accusation, of persecution and of hypochondriac type... which in the most part of the cases, after a prolonged course, evolved into a moderate mental deterioration. In the eighth edition Kraepelin included also the involuntional melancholia within the manic-depressive illness among the mixed states. The kraepelinian dichotomous conception of major psychoses, based on the course, has been subsequently supported by its therapeutic implications after the introduction of pharmacotherapy (the different forms of schizophrenia respond to neuroleptics and manic-depressive illness or bipolar disorder responds to lithium and to other mood stabilizers). Through the reception in the North-American nosography, it prevailed everywhere.

⁶² Kraepelin employed the term *Grundzustände*.

Freud

After Kraepelin, Freud also utilized the term melancholia in his psychoanalytic conceptualization of the mental disorders.

Abraham, in 1913, was the first Author that wrote about the melancholia in psychoanalytic literature, and according to his view, melancholia develops when the subject has lost the hope to satisfy his libidinal aspirations. The enormous sense of guilt is caused by his real destructive wishes, remaining unconscious.

Freud deals with this issue in 1915 in *Metapsychology*, later published in 1917 in *Mourning and Melancholia*.

“The affect corresponding to melancholia is that of mourning, that is, longing for something lost. In melancholia it must be a question of love- a loss in instinctual life. (...). Melancholia consists in mourning over loss of libido.”

In the sixth paragraph he concludes that the melancholia “is a psychic inhibition with instinctual impoverishment and grief with regard to this”.

Freud reminds that the melancholy appears in different forms; some of them refer rather to affections of somatic than psychogenic.

The melancholy is characterized by a deep and painful downheartedness, by a failure of the interest toward the external world, by the loss of the of the ability to love, by the inhibition in front of any activity and by a discouragement of the sentiment of self, expressing itself with self-reproaches and self-insults and culminating in the delirious waiting for a punishment.

The constitution

While Kraepelin (1921) described the cyclothymic disposition as one of the constitutional temperament as one from which manic-depressive illness arose, Kretschmer (1936) went one step further and proposed that this constitution represented the core characteristic of the manic-depressive illness.

In some cyclothymics, depressive or irritable moodiness predominates in others subclinical hypomanic traits (hyperthymics).

We describe as schizoid and cycloid those abnormal personalities which fluctuate between sickness and health, which reflect the fundamental psychological symptoms of the schizophrenic and circular psychoses in the lighter form on a personality oddity; such schizoid and cycloid types we find in the first place in the pre-psychotic personalities of the psychopaths themselves, and then in their nearest blood-relations.

E. Kretschmer, 1922

And again:

With regard to such genealogical tables it is particularly enlightening to observe that we can never do justice to the endogenous psychoses so long as we regard them as isolated unities of disease, having taken them out of their natural heredity environment, and forced them into the narrows of a clinical system.

Viewed in large biological framework, however, the endogenous psychoses are nothing other than marked accentuations of normal types of temperament.

Ibidem

Table 8-2. The Temperaments in Kretschmer

| | <i>cyclothymes</i> | <i>schizothymes</i> |
|-------------------------|--|--|
| Psychoesthesia and mood | Diathetic proportion: Between raised (gay) And depressed (sad) | Psychaesthetic proportion: Between hyperesthetic (sensitive) Anaesthetic (cold) ⁶³ |
| Psychic tempo | Wavy temperamental curve: between mobile and comfortable | Jerky temperamental curve: between unstable and tenacious alternation mode of thought and feeling |
| Psychomotility | Adequate to stimulus, Rounded, natural, Smooth | Often inadequate to stimulus: restrained, lamed, inhibited, stiff, etc. |
| Physical Affinities | Pyknic | Asthenic, athletic, dysplastic, and their mixtures |

⁶³ Schizoid is *reizbar und stumpf*, with an affective anesthesia and hyperesthesia.

The Pavlovian experimental confirmation

Not really well known is the experimental confirmation of temperaments by the researches about conditioned reflexes of Ivan P. Pavlov.

In *A physiological study of the types of nervous systems*, published in 1928, Pavlov suggests a physiological study of temperaments beginning from his studies of the higher nervous activity according to the conditioned reflex method.

He distinguishes three well-defined types of nervous systems (the central or equilibrated, and two extreme types, the excitatory and the inhibitory) and four different groups among the dogs used in the experiments: two extreme groups of markedly excitatory and inhibitory animals and two central groups of well balanced, equilibrated animals, but also different (one being quiet and the other exceedingly lively). Pavlov considers a perfect right to use the facts established concerning the dog's nervous systems for defining the human temperament.

Temperament represents an important part of constitution, the most general peculiarity of every person, the most basic essentiality of his nervous system. The results of Pavlov's experiments seem to confirm the ancient grouping of Hippocrates of four temperaments – choleric, melancholic, sanguine and phlegmatic. The excitatory type is the choleric, the inhibitory type is the melancholic; the two forms of the central type correspond to the phlegmatic and the sanguine temperaments.

It is a neurobiological theory, which understands temperament as determined by underlying neurobiological processes, especially levels of arousal, revealed in response to the conditioned reflexes.

And in consideration of all the above mentioned facts it seems that, in the thousand-year-old question of temperaments, the laboratory has an important and unequivocal contribution to make.

Table 8-3. Temperaments: comparison between Hippocrates and Pavlov.

| Hippocratic | Pavlovian | |
|-------------|--------------|--|
| Choleric | Excitatory | Pugnacious, passionate |
| Sanguine | central type | Well balanced, equilibrated, healthy, stable |
| Phlegmatic | | |
| Melancholic | Inibitory | he believes in nothing, hopes in nothing |

Leonhard tried to validate the distinction between bipolar and unipolar psychoses in terms of genetics, familiarity, response to therapy and prognostics (1957).

Perris (1966), Angst (1966) and Winokur (Winokur et al., 1969) contributed in the success of this Leonhard's theory, which has influenced the current official nosology (ICD-10 (WHO, 1992) and DSM-IV (APA, 1994).

The Typus melancholicus

In his book *Melancholie* Tellenbach describes the structure of the melancholy on the basis of a specific premorbid personality. The *Typus melancholicus* is anchored to an accentuated version of order, with a high claim, above the average, over their performances, serious, rigid, lacking in humour, overconscientious,

and stereotyped. Rigid adherence to a high ethical code, overwhelming overconscioussness and strained meticulousity are other typical characteristics.

There is the threat of a vicious circle between extension and accuracy of performances.

The melacholicus type tries to protect himself from the irruption of the disorder of the unpredictable, but he tends to decompensate himself and to slide toward the melancholy

Hubertus Tellenbach *Melancholie*, 1961

They at peace only if they can meet their self-imposed standards

F.J. Ayd, 1961

If apparently the *typus melancholicus* has the features of the obsessive, Kimura (1971) explains that the depressed persons live for the others and are disposable whereas the world of the obsessive, where the attachment to the order is defensive, is closer to the relation with the other.

The orderliness of the *typus melancholicus* is fundamentally oriented towards interpersonal relationships, whereas the obsessive's is towards the organization of things (Stanghellini, 2004).

In Tellenbach the classic relation which sets off the affective role seems to overturn; it is not the mood anymore that affects the temperament and afterwards the knowledge.

A structuring of the personality moves towards events that afterwards encourage the depressive breakthrough. Almost a Jaspersian development of character.

When the *typus melancholicus* suffers a decompensation, we can point out counter-polar elements of agitated depression off – therefore mixed features, in this being consumed by the tasks in order to not be left behind.

The endogenous doctrine

Ludwig Binswanger, instead, supports the classic conception. He writes:

The impossibility of interpreting the melancholy as an accentuation of pessimistic or sad character results already as a matter of fact by the consideration that in the case history of

melancholy persons, as any psychiatrist knows, we find a larger number of cheerful (“syntonic”, “sanguine”, or “optimistic”) constitutions or “temperaments” rather than pessimistic.

In the melancholic contents we can not find a psychological relation, but the expression of an endogenous mental illness. He quotes, from the diary of Swiss writer Reto Ross, that melancholy is “the loss of a hold”, of an anchor, of a vital contact with the things (Binswanger, 1960), and from Hubertus Tellenbach's patient M.B.K., that it is the lack itself of an object.

It does not matter which fuel you put into the furnace of suffering and for which reason the fire develops. In a sense it is a good that objects are found, even though this sharpens the suffering; because the true and horrible essence of anguish, in the depression, is its lack of an object.

The cognitive theory

A complete reversal of the affective conception of the depression is carried out in cognitive perspective by Beck (1967):

Since the disturbing of sentiments is generally a peculiar feature of depression, in the last years is become usual to consider this state as a “primal mood disorder” or as an “affective disorder” (...) To describe it as an affective disorder is as much misleading as it would be to define the scarlet fever as a “skin disease” and a “primal fever disorder”.

His cognitive theory considers the thought connected not to the influence of depressive mood, but to the cognitive distortions. He identified the primary triad in depression: construing experiences in a negative way, viewing himself in a negative way and viewing the future in a negative way

These 3 patterns: negative view of the world, of self, and of future (1970) would lead to depressed mood.

He considered his theory applicable to the various types of depressive states including those that might be classified psychotic or endogenous.

In studies of both patients and high-risk subjects, particular patterns of personality have been found to be associated with affective disorders. Neuroticism and features

of the melancholic type of personality seem to be risk factors for depression while premorbid features of the manic type of personality predominate in patients with more manic than depressive episodes. While neuroticism prevails in the majority of mental disorders, the 'affective' personality variants appear to be more specifically associated with affective disorders. The identification of highly predictive risk factors provides an opportunity for the development of prevention programs (Hecht et Al., 1998).

Studying the relationship between premorbid personality and subtypes of affective disorder,

by means of the Biographical Personality Interview (BPI) and by a self-rating scale, von Zerssen et Al. (1997) confirmed that, in a heteroevaluation rating, "typus melancholicus" features were found to be more pronounced in unipolar depression or bipolar II disorder than in bipolar-I patients and control subjects. "Typus manicus" features were also distinguished between both clinical groups, whereas anxious-insecure features were not significantly different between the groups of patients.

9. The Modern classification

In DSM III (APA, 1980) the term Major Depression replaced the terms of melancholia and endogenous. The reference to the endogenous has been abandoned because its theoretical implications.

Melancholia has been considered in DSM-III “a term of the past”, used, in this manual, to indicate a typically severe form of depression that is particularly responsive to somatic therapy (Nelson et Al., 1981).

The criteria of DSM-III are conceived in order to define a sub-classification (Major Depressive Episode with Melancholia).

In the DSM-III have been added three anamnestic criteria (lack of personality disorders, previous remission of major depressive episodes, and favourable response to antidepressants).

In DSM-IV (1994) the specifier “With Melancholic Features” can be applied to the diagnosis of a Major Depressive Episode in Major Depressive Disorder and in Bipolar I or II Disorder (only if it is the most recent type of mood episodes). It has been reintroduced the “distinct quality of depressed mood” and excessive or inappropriate guilt, while it has been excluded the natural course and the response to antidepressant medication, criteria already included in the definition itself.

Mania seems to maintain a greater terminological stability where the adjective “maniacal” goes to identify, in the DSM-IV, the episode with the typical characteristics of the phase of excitement. It is likely that to a higher terminological stability will correspond precise and constant phenomenal and phenomenology of mania symptoms, while, in the event of depression, we assist both to a elevated variety of syndromes aggregations and to a more significant clinical evolution and transfiguration happening in the course of time: much more infrequent is the observation of the catatonic and nihilistic types and much more frequent are the masked types or the atypical characteristics one.

In a historical excursus from antique books to modern classifications, what it emerges is for sure the strait relationship between depression (melancholia) and mania: as classic Authors report to frequent passage from one to the other types of disease, today’s conception of mania is not thinkable as something separated from the one of depression; similarly, depression is view more and more as a manifestation of the bipolar spectrum, yet position of dichotomic type prevailed (unipolar-bipolar) (Cassano, 2002).

According to Cassano et al. (1999) there are several reasons for the lower rate of recognition of subthreshold manic symptoms, when compared to the analogous pure depressive ones. This contributes to the frequent under-diagnosis of bipolar disorder. Attention should also be devoted to mild symptomatic manifestations of a manic diathesis. These symptoms are not referred as such manifestations may sometimes enhance quality of life. The term *spectrum* is used to refer to the broad range of such manifestations of a disorder from core symptoms to temperamental traits.

Spectrum manifestations may be present during, between, or even in the absence of, an episode of full-blown.

Figueira (2002) has pointed that accepting the model of spectrum in affective disorders could modify our clinic attitude. There is the need to a systematic reevaluation of the changes of the clinical syndrome. Clinical evidences impose a cautious clinical judgement. Temperament took a large part in the classic conceptions and in the etiopathogenetic theories from Authors such as Ippocrate to our days, but it seems now to dissolve itself and to lose connotation within the present classification systems, phagocyted by the great nosography groups of Axis I and II. In the recent versions of the DSM, there are not trace of “irritable temperament” as well as does not appear the “hyperthymic

temperament”: even hypomania, showing among its symptoms various characteristics which evoke an excessive of a few aspects of the hyperthymia, is delineated like an attenuated type of mania, a phase of mood alteration well distinguished from the typical “modus vivendi” of the individual, an episode of illness that stands out from the usual way of being of that patient.

The Cyclothymic Temperament can be partly assimilated to the present "Cyclothymic Disorder", the last one consisting of a chronicle mood fluctuation including numerous periods with hypomaniac symptoms and numerous periods with depressive symptoms. Typically, onset of the disorder is during the adolescence or in the first adult age and it is also absorbed to a temperamental type model, determining itself as a clinical representation fading its origins in the personality and in the characterial nature of the individual. This temperament can also be observed between the lines of some Personality Disorders, characterized by an extreme mood fluctuation, such as the Borderline Disorders, in which, however, it is possible to find a variety of other psychopathological dimensions that render cyclothymia only one of the several aspects delineating such a disturbance.

Depressive temperament is less traceable, except for the "Dystimic Disorder with premature onset", where a chronically depressed mood is present, as well as reduced energy or fatigue, low self-esteem and facility to self-criticism: however, DSM views it as “unipolar mood disorder”, a clinical entity well distinguished from what is considered the personological attitude of the individual.

There is also a syndromic group that DSM-IV defines "Depressive Personality Disorder", characterized by depressive and pervasive beliefs and behaviours; onset is during the

first adult age and it manifests itself with a propensity to being serious and gloomy, feeling of restlessness, lack of joy, a negative way to look at the future, pessimism, lack of self-esteem and a tendency to feel guilty. Perhaps, among all those in the handbook, "Depressive Personality Disorder" is the one that better seems to recall characteristics of the Depressive Temperament, even if it concerns of a diagnostic entity numbered among new proposed categories, not sufficiently verified and validated yet.

As a result, we have pointed out to the loss of one integral and unitary classification of the Affective Temperaments as classically understood in the contemporary psychiatry; however, from another point of view, we would emphasize that the validity of meanings, that are at the bottom of the definitions of temperaments is not lost, but is quite variously identified, classified and defined in their nuclear elements, meaning that the classic conceptions are neither faded nor exceeded, but re-elaborated and re-shaped like malleable, plastic material always well amalgamated, variously mouldable by different Authors and different cultural and epistemological influences.

A return to Kraepelin Schema

Akiskal takes from Kraepelin the concept of “fundamental states”, but employing the classical term of temperament. The affective temperament is a specific constitutional disposition, a dimensional construct; only the extremes can be considered abnormal in statistical and perhaps in a clinical sense; he proposed some criteria for a better and shared definition of the affective temperaments (Akiskal et Al. 1979). We cite the criteria for the definition of the cyclothymic temperament as an example (table 9-1).

Table 9-1. Criteria for the definition of the cyclothymic temperament

| | |
|---|--|
| The cyclothymic temperament | |
| Biphasic mood swings-abrupt from one phase to the other, each phase lasting for a few days at a time with infrequent interphase euthymia. | |
| At least four of the following features constitute the habitual long-term baseline of the subject: | |
| <ol style="list-style-type: none"> 1. Lethargy alternating with eutonia 2. Shaky self esteem alternating between low self-confidence and overconfidence 3. Decreased verbal output alternating with talkiveness 4. Mental confusion alternating with sharpened and creative thinking 5. Unexplained tearfulness alternating with excessive punning and jocularity 6. Introverted self-adsorption alternating with uninhibited people-seeking. 7. | |

According to Akiskal the temperament has an important role in determining the clinical picture of the affective episodes and the longitudinal course of the illness. Unlike

Kraepelin, he attributes to temperamental dispositions an important role in the pathogenesis of mixed states (Akiskal et al. 1998) (Table 9-2).

Table 9-2. The mixed states according to Kraepelin and Akiskal

| | |
|---|--|
| The mixed states | |
| Kraepelin (1904) | Akiskal (1998) |
| Unsynchronized transition between the two phases; the patient is “trapped in the switch process”. | Intrusion of an affective episode into an opposite affective temperament or one with a high degree of chronic instability, such as in the cyclothymic temperament. |

To acknowledge temperamental dispositions could be very important also in order to make the patients with such features more accessible to the effective therapies in the connected treatment.

Temperamental dimensions include relatively stable aspects of individual differences, thought constitutionally based (Buss, 1991).

Personality: as temperament upon which are overlaid cognitive structures, motivational and behavioural patterns, that incorporate these basic styles or inclinations in a more or less well socialized manner, and emotional expression (Buss and Plomin, 1975).

From a biological point of view, the proposal of Robert Cloninger has obtained a great

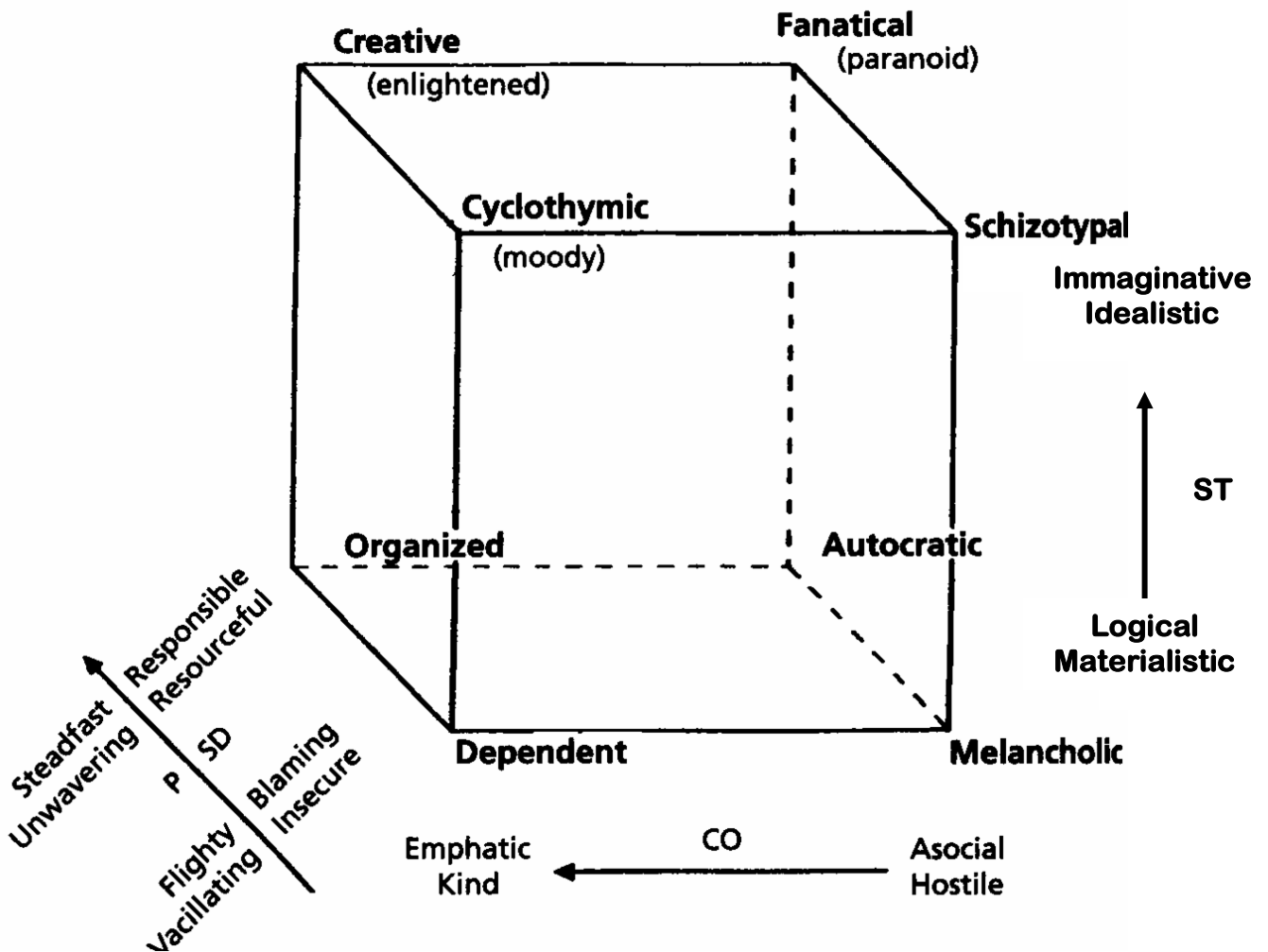
success: he tried to correlate character with specific neurotransmitters and elaborated an instrument called “The Temperament and Character Inventory (TCI)” for the assessment

of the personality dimensions linked to the different biological pathway (table 9-3, figure 9-1) (Cloninger et Al., 1993; 1994).

Table 9-3. The dimensions of temperament and character according to Cloninger

| Temperamental traits | Biological correlation |
|-------------------------|------------------------|
| Harm avoidance (HA) | Serotonergic system |
| Novelty seeking (NS) | Dopaminergic system |
| Reward dependence (RD) | Noradrenergic system |
| Persistence (P) | |
| Characterial traits | |
| Self-directedness (SD) | |
| Cooperativeness (C) | |
| Self-transcendence (ST) | |

Figure 9-1. The character cube: eight possible configurations of high or low scores on three TCI character dimensions (from Cloninger, 1999, modified).



Recent theories (e. g. those of Cloninger or Akiskal) combine different aspects. After reviewing the historical temperament concepts we present underlying factors which are linked to affective disorders (such as

emotional reactivity, cyclicity or trait affectivity). Ehrst et al. (2003) illustrate the importance of temperament concepts for research in affective disorders.

10. The relationship between personality/temperament and illness

The different relationships and interactions between personality/temperament and illness in affective disorders have been classified according to the following models (Klerman, 1973; Akiskal et Al., 1983; Ehrt et Al., 2003):

1. Personality predisposes a person to develop an affective disorder. Already Tellenbach had underscored these aspects in depression; Beck has radicalized this position, isolating the cognitive aspects from the mood.
2. Temperament (which has a more constitutional, biological basis than personality) represents the core characteristic of the illness (model of the dilution of full-blown affective disorders). Kretschmer has made clear the Kraepelinian view. Substantially, it is the point of view of Leonhard⁶⁴ (1957) and Akiskal (1979).
3. The premorbid personality can modify the clinical presentation of affective disorders, the interpersonal relationship and the compliance to treatment (Klerman, 1973).
4. Depression induces changes in personality: depressive defect (Helmschen, 1974), residual syndromes (Glatzel, 1973); Janzarik (1968), residual states (Marneros & Deister, 1990).⁶⁵

Olothymic conception could represent a very simplified conceptualization of 2nd type; it puts in brackets the temperament; deflection

⁶⁴ Leonhard (1957) proposing the separation into unipolar and bipolar types, considered personality patterns as subclinical, “diluted” forms of manic depressive illness.

⁶⁵ Marneros and Rohde (1997) found persistent alterations (defined as the persistence of deficits, impairments and alterations in the domains of psychopathology, and psychological and social functions for more than 3 years) in 35,8% in affective disorders.

and expansion of mood modify convictions until delusion.

Emphasis of post-depressive remainder (the conceptualization of 4th type) is in opposition to the Kraepelinian paradigm, which was founded on the criterion of the course in order to distinguish maniac-depressive illness from schizophrenia: in the latter we find the defect, whereas in maniac-depressive illness there are interval phases between the episodes of opposite polarity⁶⁶.

In this sub-categorization, founded on the interections between temperament and illness, we can introduce also the role carried out by the life events:

a) An accentuation of traits of personality without an influx of the events according to the concept of development of Karl Jaspers (1959).

b) Key Experience (or Event), when a precipitating event (Key Experience, in German *Schlüsserlebnis*), occurred in a specific (like a key in a lock) personality at a particular time of person’s life⁶⁷.

c) The events are not always casual, but they are looked for by the typos: “It is the man who looks for the circumstances that disconcert him” (José Ortega y Gasset, 1930).⁶⁸ These dynamics are illustrated in the constellations of Including and Remaining of the *Typus melancholicus* by Tellenbach, where there is a “sliding” into the illness.

Lara et Al. (2006) build a spectrum model that integrates the advantages of Cloninger's and Akiskal’s approaches to personality and

⁶⁶ Kraepelin (1913) described cases of chronic depressions. The continuity and the chronicity seem important features in mood disorders

⁶⁷ Kretschmer (1918) describes this mechanism in *Der sensitive Beziehungswahn*, a type of paranoia, developed in sensitive personalities with a good prognosis.

⁶⁸ This appears particularly evident in the patterns of Cloninger with risk seeking and novelty seeking.

temperament, underlining their relationship with affective disorders. They specifically propose that “fear” and “anger” traits - used in a broader connotation than in the conventional literature - provide an optimum basis for understanding how the spectra of Anxiety, Depressive, Bipolar, Attention Deficit/Hyperactivity, Alcohol, Substance Use and ther Impulse-Control, as well as Cluster B and C Personality Disorders arise and relate to one another⁶⁹.

⁶⁹By erecting a bidimensional approach, Lara et Al. (2006) attempt to resolve the paradox that apparently polar conditions (e.g. depression and mania) can coexist without canceling one another. The combination of excessive or deficient fear and anger traits produces 4 main quadrants corresponding to the main temperament types of hyperthymic, depressive, cyclothymic and labile individuals, which roughly correspond to bipolar I, unipolar depression, bipolar II and ADHD, respectively. Other affective temperaments resulting from excess or deficiency of only fear or anger include irritable, anxious, apathetic and hyperactive. This model does not consider schizophrenia. “Healthy” or euthymic individuals may have average or moderate fear and anger traits. Family history, course and comorbidity patterns can also be understood based on fear and anger traits.

Some conclusions

We do not feel frightened reading these pages in Latin, encouraged by a statement by Johannes Crato von Crafftheim, referred by Sprengel (1918), which is well worth a reminder:

Hippocrates meditated profoundly, but he confesses that it cannot be understood neither interpreted well, if it is not exercised the art, whence the mistakes of those commentators who neglected the practice.

It seemed useful to us claiming the colleagues to the reflections of our predecessors on a theme so full of echoes.

Today the dimensional approach, the sub-threshold and the *spectra* run the risk of overlooking classic conceptions of temperaments, which have been confirmed during centuries and have had numerous applications in clinical practice.⁷⁰

Since the classic Greece it has been understood the biological humoral aetiology of temperament and the relation with the melancholy and the mania.

The historical excursus shows that there is not only a continuity in the use of the terms, but also continuous references – as to the temperaments and the melancholy – to the classic conceptions of Greek and Latin medicine. There is a long duration through the centuries. When today we talk about temperaments, melancholy and mania, echoes still remain of the supernatural interpretations, of the theological conceptions of the capital vices, of the influence of alchemy and of esotericism.

The knowledge of the variegated heritage of classical tradition, rich of suggestions, which have enriched the theories of temperaments,

⁷⁰ According to Janowsky (1998) studies on the spectra can improved if they'll comprise personality assessment, meaning with this not as much as "Personality Disorders" rather "base personalities": in this way the Author approaches himself to the Affective Temperament.

can help our understanding of the successes but also of the cultural obstacles⁷¹, after when the temperament has strongly reappeared on the scene of contemporary psychiatry.

Instead, it's lost the concept of an ordering entity, *temperantia* (temperance), in a pedagogical perspective, in the reflection that goes from Aristotle to saint Thomas, with also a role of discipline and modulation, not only of temperament inhibition.

The reading of the classical texts, full of esoteric references, of theories that sometimes are more kindred to philosophy than clinic, of mechanistic simplifications, can help to understand the bases of conception that are still now deep-rooted in the popular culture (suffice it to think at the spread of the popular astrologic credence and of the relating belief about the influence of the stars on inner experience and behaviour) and that are looked over with irony and scepticism in the scientific contexts.

The conceptions that have been detached from the tradition, as the distinction between monopolar and bipolar (Leonhard, 1957, Angst, 1966, Perris, 1966) show now evident limits. As wrote Hoffman, summoning Aretheus, instability is innate in excitement and depression.

Aretheus (Lib. 3, cap. 5) wrote that melancholy makes up for the beginning and the origin of mania, and by increasing more than by any other cause, the latter is drawn to fury. This connection is confirmed by a daily and very careful observation, when the melancholic ones, above all when the illness is deep seated very

⁷¹ Here we can catch several differences between European and American point of view. Probably, German culture of constitutions pay off discussed outcomes in which psychiatry has been committed with an eugenetical drift. The American dream of the self made man, craftsman of his own fortune, feels itself too much constraint into the conception of a "temperamental", biological limit.

easily incur in mania, and when this is ceased, melancholy appears again.

In the same way Alexander of Tralles connected mania to melancholy interpreting it as an accentuation of the disorder, as an advanced stage of melancholy. Manic depressive illness is a cyclic illness: it is not only the course, probably it is the main characteristic.

Our tracking shot of interpretative patterns, of figures, show the complexity of the models until the current ones, which more and more advance toward a spectrum, a continuum where all the components are important and present with quantitative and role-related differences according to a temporal function.

The different interpretative models have an impact on the therapeutic choices. It is

evident that the emphasis on the responsibility to change (i.e. to the abandonment of “cognitive schemes”) above all in a melancholic phase is seen with worry as a premise to the accentuation of topics of guilt.

The history of melancholy can be useful also for the clinician as can help us in reflecting about philosophical arguments, as the limits of the freedom of choiced that remain when mood may causalty explain attitudes and behaviours of the sick man.

The biological advances have restricted the ambit of psychological explanation.

The theological reflection on sloth must lead us to proceed with caution in spheres “deeply connected with our own human essence”, as Romano Guardini wrote, to “an order that is, by its real nature, spiritual”.

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APPENDIX

Biographical profiles

Galen

Greek: Γαληνός, Latin: Claudius Galenus of Pergamum (129-200 AD), better known in English as Galen, was an ancient Greek physician. His views dominated European medicine for over a thousand years. If the work of Hippocrates can be taken as representing the foundation of Greek medicine, then the work of Galen, who lived six centuries later, is the apex of that tradition. Galen crystallised all the best work of the Greek medical schools which had preceded his own time. It is essentially in the form of Galenism that Greek medicine was transmitted to the Renaissance scholars.

Galen was born in Pergamum (modern-day Bergama, Turkey), the son of Nicon, a wealthy architect. His interests were eclectic - agriculture, architecture, astronomy, astrology, philosophy - until he finally concentrated on medicine. Training in philosophy was, in Galen's view, an essential part of the training of a doctor, not merely a pleasant addition. His treatise entitled *That the best Doctor is also a Philosopher* gives us a rather surprising ethical reason for the doctor to study philosophy. The profit motive, says Galen, is incompatible with a serious devotion to the art of healing. The doctor must learn to despise money. Galen frequently accused his colleagues of avarice and downplayed the motive of financial gain associated with becoming a doctor, in order to defend his profession against this charge.

By the age of twenty he had become a *therapeutes* ("attendant" or "associate") of the god Asclepius in the local temple for four years. After his father's death in 148 or 149, he left to study abroad in Smyrna, Corinth and Alexandria over a period of twelve years.

When he returned to Pergamum in 157, he worked as a physician in a gladiator school for three or four years. During this time he gained much experience of trauma and wound treatment. He later regarded wounds as "windows into the body".

Galen performed many audacious operations that were not again used for almost two millennia, including brain and eye surgery. In 162, he moved to Rome where he wrote extensively, lectured and publicly demonstrated his knowledge of anatomy. He gained a reputation as an experienced physician and his practice had a widespread clientele. One of them was the consul Flavius Boethius who introduced him to the Imperial court where he became a court physician to Emperor Marcus Aurelius. Later he also treated Lucius Verus, Commodus and Septimius Severus. Reputedly, he spoke mostly Greek, which in the field of medicine was a more highly respected language than Latin at the time. He briefly returned to Pergamum during 166-169.

Galen spent the rest of his life in the Imperial court, writing and experimenting. He performed vivisections of numerous animals to study the function of the kidneys and the spinal cord. His favorite subject was the barbary ape. Reportedly he employed twenty scribes to write down his words. In 191, fire in the Temple of Peace destroyed some of his records. His exact date of death has traditionally been placed around the year 200, based on a reference from the 10th century Suda Lexicon. Some, however, have argued for dates as late as 216, on the basis that his last writings seem to be as late as 207.

Galen transmitted Hippocratic medicine all the way to the Renaissance. His *On the Elements According to Hippocrates* describes

the philosopher's system of four bodily humours, blood, yellow bile, black bile and phlegm, which were identified with the four classical elements, and in turn with the seasons. He created his own theories from those principles, and much of Galen's work can be seen as building on the Hippocratic theories of the body, rather than being purely innovative. In turn, he mainly ignored Latin writings of Celsus, but accepted that the ancient works of Asclepiades had sound theory.

Amongst Galen's own major works is a seventeen-volume *On the Usefulness of the Parts of the Human Body*. He also wrote about philosophy and philology, as well as extensively writing on anatomy. His collected works total twenty-two volumes, and he wrote a line a day for most of his life.

Galen's own theories, in accord with Plato's, emphasized purposeful creation by a single Creator ("Nature" - Greek Φύσις) - a major reason why later Christian and Muslim scholars could accept his views. Although he was not a Christian, Galen's writings reflect a belief in only one god, and he declared that the body was an instrument of the soul. This made him acceptable both to the fathers of the church and to Arab and Hebrew scholars.

His fundamental principle of life was *pneuma* (air, breath) that later writers connected with the soul. These writings on philosophy were a product of Galen's well rounded education, and throughout his life Galen was keen to emphasise the philosophical element to medicine. *Pneuma physicon* (animal spirit) in the brain took care of movement, perception, and senses. *Pneuma zoticon* (vital spirit) in the heart controlled blood and body temperature. "Natural spirit" in the liver handled nutrition and metabolism. However, he did not agree with the Pneumatist theory that air passed through the veins rather than blood.

From the modern viewpoint, Galen's theories were partially correct, partially flawed. He demonstrated that arteries carry blood, not air and made first studies about nerve functions, and the brain and heart. He also argued that the mind was in the brain, not in the heart as Aristotle had claimed.

Galen's authority dominated medicine all the way to the 16th century. Experimenters' disciples did not bother to experiment and studies of physiology and anatomy stopped - Galen had already written about everything. Blood letting became a standard medical procedure. Vesalius presented the first serious challenge to his hegemony.

Much of medieval Islamic medicine drew on the works of the ancient Greeks, especially those elucidated by Galen, such as his expanded humoral theory. Most of Galen's Greek writings were first translated to the Syriac language by Nestorian monks in the university of Gundishapur, Persia. Muslim scholars primarily in Baghdad translated the Syriac manuscripts into Arabic, along with many other Greek classics. They became some of the main sources for Arabian scholars such as Avicenna, Rhazes, and Maimonides. Galen was known in Arabic as Jalinus, and many people with that name today are considered to be descended from him.

Paracelsus (Theophrastus Philippus Aureolus Bombastus von Hohenheim)

Paracelsus (born 11 November or 17 December 1493 in Einsiedeln, Switzerland - 24 September 1541) was an alchemist, physician, astrologer, and general occultist. Born Theophrastus Philippus Aureolus Bombastus von Hohenheim, he took the name Paracelsus later in life, meaning "beside or similar to Celsus", an early Roman physician. After assuming his new name Paracelsus bravely announced that his medicine was greater than that of the ancient Greeks and Romans. It is now established that the family originally came from Württemberg, where the noble family of Bombastus was in possession of the ancestral castle of Hohenheim near Stuttgart until 1409. Wilhelm Bombast von Hohenheim, physician to the monastery of Einsiedeln and father of Theophrastus, changed the family residence to Villach in Carinthia (c. 1502), where at the time of his death (8 Sept., 1534), he was city physician.

Paracelsus was born at Einsiedeln, Switzerland, of a Swabian chemist father and a Swiss mother. He was brought up in Switzerland, and as a youth he worked in nearby mines as an analyst. He received his early education from his father. Later in life Paracelsus fondly wrote of his father saying he had introduced him to medicine by telling him about the healing herbs and minerals of the region. He also taught him some alchemy, the mysteries of mining, smelting, and refining ores. He rarely spoke of his mother except he grew up in poverty and his home was quiet. It is thought his mother suffered hours of depression, and when he was nine jumped from the Devil's Bridge into the Siehl River. Following her death his father departed Einsiedeln.

He was initiated into the mysteries of alchemy by Joannes Trithemius (1462-1516), Abbot of Sponheim, and a prolonged interval spent in the laboratories of Sigmund Fugger at Schwaz made him familiar with metallurgy. He started studying medicine at the University of Basel at the age of 16. He may have studied for a bachelor's degree at the University of Vienna between 1509 and 1511, but there is no evidence that he received such a degree.

In 1513-16, he travelled and studied in Italy, notably Ferrara under Johannes Manardus (1462-1536). When in Italy he made enemies by speaking out against Galenic medicine which had been the bulwark of Europe's medical practice since ancient Greece. He declared those practicing it did more harm than good. Many think his arrogance kept him from learning what would become Italy's great gift to medicine, the systematic study of human anatomy. But he learned of the new "French disease", syphilis of which he would later write about and cure with mercury.

He may have taken a lower medical degree. The only evidence we have for a degree of any kind is Paracelsus's own testimony given during a legal proceeding that he received a doctorate (when Paracelsus settled in Strasbourg in 1526, he was not enrolled in the physicians but in the grain merchants guild. This seems to indicate that he did not actually hold the degree that he claimed).

He was employed as a military surgeon in the Venetian service in 1522. From the fact that Paracelsus appears to have been very well travelled, it seems probable that he was involved in the many wars waged between 1517 and 1524 in Holland, Scandinavia, Prussia, Tartary, the countries under Venetian influence, and possibly the near East. He journeyed to Egypt, Arabia, the Holy Land, and Constantinople seeking alchemists from whom to learn. On his return to Europe, his knowledge of these treatments won him fame. He did not go along with the conventional treatment of wounds, which was to pour boiling oil onto them to cauterize them; or if they were on a limb, to let them become gangrenous and then to amputate the limb. Paracelsus believed the then-ridiculous idea that wounds would heal themselves if allowed to drain and prevented from becoming infected. Paracelsus derided the use of guaiac in the treatment of syphilis, claiming that its only benefit was to the coffers of the Fuggers, who held the import monopoly on the drug.

After a series of abortive attempts to establish a practice in southern Germany and Switzerland, he settled in Strasbourg where he had a successful practice (1526-7).

At Strasbourg, Paracelsus relied for protection from his fellow physicians on the reformers: Nicolaus Gerbelius, Kaspar Hedio, and Wolfgang Capito. Capito had been in Basel earlier and was an intimate and old friend of Paracelsus's Basel patron Oecolampadius. Capito was the most powerful of the three.

He was then called to Basel (1527), where he was town physician with a rare commission and right to lecture at the university. At Basel, Paracelsus successfully treated the leg of the publisher Froben, who was at the center of the humanist movement in Basel. This won Paracelsus the grateful recognition of Erasmus and the powerful Amerbach brothers. Paracelsus was at that time simply visiting Basel and Erasmus then expressed his desire to secure his services for Basel. Oecolampadius was responsible for Paracelsus's actual appointment. With Froben's death, Paracelsus lost a major protector, and the pressure against him began to rise. When Paracelsus insulted a judge after

a prejudiced ruling against him, he was forced to leave town.

Thereafter, his life was a long journey interrupted by short periods of residence in southern Germany, Switzerland, Austria, and Bohemia. He presumably earned his living as a healer and writer.

In 1529 we find him at Nuremberg, soon afterwards at Beritzhausen and Amberg, in 1531 at St. Gall, later at Innsbruck, in 1534 at Sterzing and Meran, in 1535 at Bad Pfäfers, Augsburg, 1537 at Vienna and Presburg. In May 1538, at the zenith of this second period of notoriety, he returned to Villach again to see his old father, only to find that he had died four years previously. In 1541 Paracelsus himself died in mysterious circumstances at the age of 48 at the White Horse Inn, Salzburg, where he had taken up an appointment under the prince-archbishop, Duke Ernst of Bavaria.

The present tomb in the porch of St. Sebastian's Church, was erected by some unknown person in 1752. According to recent research the portrait on the monument is that of the father of Paracelsus. Paracelsus did not join the ranks of the Reformers, evincing, rather, an aversion to any form of religion. The clause in his will, however, giving directions for a requiem Mass would indicate that before his death he regarded himself as a member of the Church.

Jean (Johannes) Fernel

Jean François Fernel (in Latin, Fernelius) (1497–Fontainebleau 1558) was a French physician who introduced the term "physiology" to describe the study of the body's function. He was the first person to describe the spinal canal. The lunar crater Fernelius is named after him.

In the 1500s, Fernel suggested that fat could trigger human taste buds, but scientists rejected the idea until a recent study (carried out by Purdue University in 2001) proved it plausible.

He born at Clermont, and after receiving his early education at his native town, entered the

college of Sainte-Barbe, Paris. At first he devoted himself to mathematical and astronomical studies; his *Cosmoltheoria* (1528) records a determination of a degree of the meridian, which he made by counting the revolutions of his carriage wheels on a journey between Paris and Amiens.

But from 1534 he gave himself up entirely to medicine, a which he graduated in 1530. His extraordinary general erudition, and the skill and success with which he sought to revive the study of the old Greek physicians, gained him a great reputation, and ultimately the office of physician to the court. He practised with great success, and at his death in 1558 left behind him an immense fortune.

He also wrote *Monalosphaerium, sive astrolabii genus, generalis horaril structura et USUS* (1526); *De proportionibus* (1528); *De evacuandi ratione* (1545); *De abdilis rerunt causis* (1548); and *Medicina ad Henricum II* (1554).

Hieronymus Montuus (Jerôme de Monteux de Merybel)

Jérôme de Monteux (1518 - 1559), who came from Ast, was the first physician of François II. In his text "De Activa medicina scientia commentarii" he dedicated an important charter to physical exercise «De l'exercice et de l'oisiveté et de leurs différences». Even if he set the introductions of the rational gymnastics, in his accuracy he never was able to exceed Mercurialis. He wrote, among other things, "Commentaire de la conservation de la santé et de la prolongation de la vie».

Johannes Crato von Krafftheim

Johannes Crato (1519-1585), a student of Martin Luther and Philipp Melanchthon who became Maximilian II's personal physician despite his fine Protestant pedigree, was the final member of Louthan's hardy band of irenicists. So close was Crato's relationship with the emperor that he accompanied him

almost everywhere for twelve years, wore a specially engraved medal as a gift from Maximilian, and was appointed to the Privy Council and granted an honorary title of nobility. Utilizing Czech and Hungarian sources, Louthan makes a convincing case for Crato's influence in persuading the emperor to seek religious reconciliation in his Eastern European lands.

Johannes Crato aimed at the reformation of medicine in a humanistic sense. This aim was threatened by the fundamental opposition of the Paracelsians, exactly as his irenic religious policy was jeopardized by the growing confessional controversy. In this situation Crato used the instrument of denunciation as a means to dissociate himself from medical and theological extremists.

Howard Louthan. *The Quest for Compromise: Peacemakers in Counter-Reformation Vienna*. New York and Cambridge, England: Cambridge University Press, 1997.

Broer R. Peace policy by accusations of heresy against Johannes Crato (1519-1585) and denunciation of Paracelcius followers as Arians. *Medizinhist J.* 2002;37(2):139-82.

Ludovicus Mercatus (Luiz de Mercado)

Ludovicus Mercatus (Valladolid, 1520 - 1606) was Physician to Philip II, and III. Kings of Spain. For Sprengel (1813) in his work it is outstanding the adesion to the scholastic system and to Avicenna. According to Mercatus, temperament is a fifth quality that derives from the union and harmony of the other four. He defines the illness as a *minus*, a subtraction, agreeing with the Saint Thomas Aquinas's conceptions.

He wrote about that disease called Morbus strangulatorius: he mentions it as a calamity, he takes notice of several circumstances relative to it, and makes some observations respecting the cure.

Wilhelm Fabry (Hildanus)

Wilhelm Fabry (also William Fabry, Guilelmus Fabricius Hildanus, or Fabricius von Hilden) (June 25, 1560 in Hilden – February 1634 in Berne). He is often called the "Father of German surgery". He was the first educated and scientific German surgeon and author of 20 medical books. His *Observationum et Curationum Chirurgicarum Centuriae*, published posthumously in 1641, is the best collection of case records of the century and gives clear insight into the variety and methods of his surgical practice.

The name Fabry (Latin: faber, fabri-a smith) was probably adopted by his forebears in place of the ubiquitous German surnames of Schmidt or Schmitz, a fashionable procedure for scholars at a time when Latin was the medium of learning. In later life he became known as Wilhelm Fabry von Hilden or Guilhelmus Fabricius Hildanus.

As a boy Fabricius was fond of exercise and was particularly keen on swimming. Ahrens (1865) stated that he contracted a paralysis of the tongue as a result of swimming for too long in cold water, and that he had to combat this disability for years.

Fabricius' schooling came to a sudden premature ending when he was only thirteen. This was a result of the upheaval caused by the war in the Low Countries, the effect of which was felt along the whole lower Rhine. Had circumstances been more favourable, Fabricius might have proceeded to a University, but in fact he had no higher education.

For the next two years he suffered from various illnesses, including an attack of plague during which he was very ill for six months. In 1576, at the age of fifteen, he embarked upon a career in Surgery by becoming apprenticed to Johann Dumgens, a surgeon at Neuss on the west bank of the Rhine opposite Dusseldorf. Here he remained for four years before moving to Dusseldorf in 1580 to serve under Cosmas Slotanus, surgeon-in-ordinary to William, Duke of Cleve, Julich and Berg. Slotanus had been a pupil of the great Father of Anatomy, Vesalius, and through him Fabricius was

introduced to the new Vesalian Anatomy at an early stage in his career. His interest in the subject progressively grew with time, and he eventually acquired an extensive knowledge of Anatomy such as was possessed by few surgeons at that time.

At Dusseldorf in 1581 he successfully exarticulated a wrist-joint for gangrene of a whole finger, and the following year at Hilden he successfully treated a neglected punctured wound of the forehead associated with swelling of the eye and laceration of the cornea.

When Slotanus died in 1585 he travelled great distances by horse and never settled anywhere for long. The first move was to Metz in France in 1585, where he was apprenticed to the wound-surgeon Johann Bartisch. Later that year he was in Geneva, working under Johann Griffon, a dexterous surgeon who operated on difficult and unusual cases. Griffon and Fabricius together performed many dissections which were attended by distinguished doctors in Geneva. It was in Geneva in 1587 that Fabricius married Marie Colinet, the daughter of a printer and herself a skilful surgeon and obstetrician.

In 1588 Fabricius left Geneva with his wife and travelled through France and Germany to Hilden, where he stayed for three years, living in the 'Haus auf der Bech' (the house on the stream). It was not long before Fabricius found that Hilden had its deficiencies. He was unable to pursue his study of Anatomy which so interested him, and he particularly missed the company of learned medical men. So, in 1591 he moved to Cologne, where he attended lectures on Anatomy.

In 1595 Fabricius was back in Geneva and busy dissecting. He gave a public demonstration of the valve of Bauhinus (in the rectum) which had been discovered in 1579 but was still almost unheard of. The Swiss climate seemed to suit Fabricius and in 1596 he moved to Lausanne. Here he continued his study of Anatomy.

In November 1598 he was back in Cologne. In 1600 we find him once more in Lausanne, extending his practice and performing dissections and public demonstrations. He

also took a course in Pharmaceutics from the apothecary Claudius Marion.

For the nine years, 1602-11, Fabricius was official town-practitioner to the small town of Payerne (Peterlingen) in the Vaud Canton.

After the death of his mother on 26 April 1612, at the age of 79, Fabricius returned to Lausanne. The following year he went to Worms and spent three months with Herr v. Dalberg.

After a stay of several months in Breisgau in 1614 he was appointed by the Elders of Berne to be official surgeon to the town and Canton of Berne. He took up the appointment in the summer of 1615 and settled there for the remainder of his life. Berne now had a resident surgeon as well as a resident physician, Dr. Lentulus. In spite of this appointment Fabricius kept up his travels quite without regard to his own health. In 1616 it remitted completely after he stopped drinking pure Lavaux wine. Fabricius also suffered from bronchial catarrh and asthma and was a martyr to gout. Several honours were conferred on Fabricius in Berne.

On 26 February 1616 he was granted citizenship of the town and exempted the expense. The following year he was elected Master of the Smiths' Company of Berne; the Company is not without significance as Fabricius' forebears were Smiths. Another honour was his appointment by Louis XIII, King of France, as Surgeon to the French Embassy in Switzerland (Reber, 1909). During his travels through France Fabricius had established friendly relations with many distinguished French doctors. At the end of 1617 he was in Hesse and the following year visited Schloss Friedberg, Frankfurt a.M., Wurttemberg, Strasbourg and Basle before returning to Berne. In November 1618e arrived at Durlach (Karlsruhe) to spend a couple of months at the court of the Margrave of Baden. His master shared Fabricius' desire to raise the standard of German Surgery. In 1619 Fabricius was called to Metz and in 1623 he was at Solothurn attending a girl with empyema. His book on the Excellence and Use of Anatomy appeared in 1624.

In 1625 Fabricius' son Peter was at Padua studying Anatomy and died two years later on a journey in Holland.

1628 saw Fabricius very ill with gout, and finally compelled at the age of sixty-eight to abandon his travels. During that summer there was a severe epidemic of plague in Berne and 4,000 people died. Fabricius, as usual, was a keen observer and recorded that only three out of thirty-two with fontanelles and setons died. His gout was again troublesome in 1630, and the following year he suffered badly with his chest, having many nights disturbed by asthma. On 28 November 1631 he made his will. On 15 February 1634 Fabricius died at Berne at the age of seventy-four from bronchial asthma. Fabricius was buried at Berne in the cemetery of the Franciscan monastery which was abolished during the Reformation.

Ellis Jones. The life and works of Guilhelmus Fabricius Hildanus (1560-1634). Part I. *Med Hist.* 1960; 4(2): 112–134.

Daniel Sennert

Daniel Sennert (Breslau, 1572 – Wittenberg, 1637) was a well-known and influential representative of early 17th-century atomism. He used Aristotelian hylomorphic terminology to put forward medical new ideas on the relationship between matter and soul. His belief in a mere multiplication of preexistent forms/souls since the Creation and in a coexistence of dominant and subordinate forms in natural things led him to the notion of atoms of the soul which via *seman* could transfer the human soul from one generation to the next. Focusing on the professional and cultural context of Sennert's theory rather than on its retrospective importance in the history of chemistry, this paper argues that it was a largely medical framework from which Sennert developed these ideas, and it stresses Sennert's strong Lutheran allegiances as a major driving force, especially behind his atomist traducianism, i.e. his claim that the human soul was propagated per *traducem* in

tiny particles of matter rather than merely being infused days or weeks after conception, as Catholics and Calvinists alike asserted.

Stolberg M. Particles of the soul. The medical and Lutheran context of Daniel Sennert's atomism. *Med Secoli.* 2003;15(2):177-204.

Prosper Martiani

Martiani, Prosper (1577-1622) was one of the most clever annotator of Hippocrates. He wrote *Magnus Hippocrates Cous*, a well-known and extremely successful commentary on the works of Hippocrates; there were four editions over a 90-year period. Marziani (or Martiano) took his medical degree at Bologna and established a very successful practice at Rome, enjoying a great reputation.

Pierre Potier (Pierre de la Poterie or Petrus Poterius)

Pierre Potier (1587? – 1640), physician to the King of France, published the first detailed description on the recipe and method of preparation of the Bolognian Stone in his *Pharmacopea Spagirica*, a treatise on inorganic remedies based on the teachings of Paracelsus. Potier lived for some time in Bologna, and he was able to give an acceptable interpretation of the discovery. Petrus Poterius corresponded with Cassiano when he sought expert medical care for Poussin, who had contracted a venereal disease perhaps as early as 1626. Under Potier's care, Poussin had an opportunity to deepen his knowledge of medicine-and not just any medicine: Potier was a follower of Paracelsus, the great proponent of psychosomatic medicine who claimed, "[Just as] imagination can cause sickness, fear can cause sickness; and so, too, joy can cause health; and just as imagination can be good or evil, so, too, it can make healthy or sick." As a Paracelsan, Potier would have devised therapies predicated on links between diseases

and his patients' psychological states; furthermore, the success of such therapies would naturally have depended on his patients' confidence in the basis of his medicine, so it is conceivable that he (or Cassiano, serving as their intermediary) instructed Poussin in the fundamentals of psychosomatic cure.

See also: Rocchietta S. The Pharmacopoea spagyrica and other works of Pietro Poterio (1587?-1640). *Minerva Med.* 1980 Jan 21;71(2):131-5.

Lazare Rivière (Lazarus Riverius)

Lazare Rivière, (called Lazarus Riverius in Latin) was born in 1589, practiced medicine in Montpellier, France, and eventually became physician to the French king. He wrote 17 books, each covering the diseases of a separate part of the body, and his collected works were published in Latin in 1655 in a single volume, *Praxis Medica* (The Practice of Physic). There were many subsequent editions, including several editions of the English translation by the famous London herbalist Nicholas Culpeper. He continued with a Galenic explanatory scheme.

Rivière's book 15, *Of the Diseases of Women*, gives a good insight into the way 17th century medicine was practised, with its great emphasis on the regulation of the 'humours' by the use of herbal and other natural remedies. It also provides a marvellous view of the miseries which most medieval women, rich and poor, would have had to suffer during the ordeals of pregnancy and childbirth at that time.

This is one of the first textbooks of obstetrics and gynaecology ever to be translated from Latin into English. Enough of the original text is retained to convey the flavour of the work, repetition and verbosity has been ruthlessly removed and the technical jargon has been translated into simple modern terms. The text is thus accessible to both the medical and the general reader. We wrote about "madness from the womb", reporting that it was a

disease which resulted from overheating and putrefaction of accumulated seed (female sperm) in the womb. Like all medical constructs, "madness from the womb" (and soon nymphomania) included a symptomatology, natural history, aetiology, prognosis and cure. It is also clear that it was rehash of the earlier moral notion of "satyriasis" (a male category applied to women) and the expression of seventeenth-century changing male attitudes towards, and fears of, female sexuality.

Theatrum chemicum

The alchemical tradition was introduced into Latin Europe in 1144 with Robert of Ketton's translation of *Liber de compositione alchemiae*. Some undated translations of other treatises may have been made a few years earlier but this one provides a convenient "birthdate" of European alchemy. from the Arabic and remained an important and lasting ingredient of European culture ever after. The earliest printed compilation was *De alchemia* which contained *Summa perfectionis*, but the first really important collection which became the linear ancestor of *Theatrum chemicum* was one also entitled *De alchemia*, containing ten texts and published by Johannes Petreius in Nuremberg in 1541. The first edition of *Theatrum chemicum* published by Zetzner in 1602 was printed in three volumes in Oberursel and contained 80 texts. The same set was reprinted in 1613 with an additional volume of 54 treatises. In 1622 the heirs of Zetzner published the fifth volume of 20 texts edited by Isaac Habrecht. The final and definitive edition of *Theatrum chemicum* was prepared by Johann Jacob Heilmann and published in 1659-1660 by Eberhard Zetzner with still one more volume, bringing the total number of alchemical tracts to over 200. It was thus the greatest such collection ever published, the second one being Jean-Jacques Manget's *Bibliotheca chemica curiosa* (Geneva 1702) with almost 140 treatises, 35 of which had also been included in *Theatrum chemicum*. It also lent its title to alchemical

compilations in English and German: *Theatrum chemicum Britannicum* edited by Elias Ashmole (London 1652) and *Deutsches theatrum chemicum* prepared by Friederich Roth-Scholtz (Nuremberg 1728-1732).

Theatrum chemicum formed the kernel of Isaac Newton's extensive collection of alchemical books and manuscripts when he bought it in or about 1668 at the age of 26 and started to experiment with alchemy, which was to become one of his lifelong interests. The first and still important study of Newton's interest in alchemy is B. J. T. Dobbs, *The Foundations of Newton's Alchemy or 'The Hunting of the Greene Lyon'*, Cambridge 1975. Of all the books Newton owned, it was this one that had most corrections, references and other marginal annotations.

The fact that the appearance of early alchemical compendia was closely related to the publication of Copernicus' *De revolutionibus*, and that their six-volume descendant was eagerly studied by Newton - the two giants demarcating the period conventionally called the Scientific Revolution - clearly shows how the areas of science and alchemy, which are now looked upon as the products of two very different worldviews, were intermingled in the minds of those who lived before the emergence of the Enlightenment mentality we have inherited.

Simon Paulli

Simon Paulli (1603-1680), born in Rostock (Germany) was physician to the King of Denmark and the first professor of botany and anatomy at the University of Copenhagen.

A fierce critic of the smoking of tobacco, he marvelled at how Europeans were "so infatuated and hood-winked" to purchase death at such a great price. "If people will still obstinately indulge themselves in the use of this noxious plant", he concluded, "all I can do farther, is to warn them of their danger."

He is best known for having instituted in 1645 the anatomical theater, called *domus anatomica*, and for the publication of the great

botanical work *Flora Danica*. The court physician was a fascinating teacher, who used to take his pupils on long excursions so they could make their own independent studies.

Franciscus Sylvius (De Le Boë)

Franciscus Sylvius (1614-1672), also known as Franz De Le Boë, was physician and scientist (chemist, physiologist and anatomist). He was born in Hanau, Germany but worked and died in Holland. Franciscus Deleboe Sylvius is the latin form of the name of this Author, that was used in a scholarly context. Names were regarded as much more mutable at that time than now and frequently crop up in different forms according to how the person wished to be seen. Thus even the French form of his name may also be what nowadays would be regarded as an affectation. Francois de le Boë Sylvius was an important figure in his day and was one of the first scientists to seek the causes of illness in chemical processes rather than speculation about humours. With his introduction to clinical instruction in 1658 he made a vital contribution to medical progress.

In 1658 he was appointed the professor of medicine at the University of Leyden and was paid 1800 guilders which was twice the usual salary. He was the University's Vice-Chancellor in 1669-70. He founded the Iatrochemical School of Medicine, according to which all life and disease processes are based on chemical actions. That school of thought attempted to understand medicine in terms of universal rules of physics and chemistry. Sylvius also introduced the concept of chemical affinity as a way to understand the way the human body uses salts and contributed greatly to the understanding of digestion and of bodily fluids. In 1671 he published his most important work, *Praxeos medicae idea nova* (New idea in medical practice). He was one of the earliest defenders of the circulation of the blood in Holland.

He researched the structure of the brain and discovered the cleft in the brain now known

as Sylvius' fissure. Sylvius' angle is also named after him.

Paul Amman

Paul Amman (1634-1691), German physician and botanist, was born at Breslau in 1634. In 1662 he received the degree of doctor of physic from the university of Leipzig, and in 1664 was admitted a member of the society *Naturae Curiosorum*, under the name of Dryander. Shortly afterwards he was chosen extraordinary professor of medicine in the above-mentioned university; and in 1674 he was promoted to the botanical chair, which he again in 1682 exchanged for the physiological. He died at Leipzig in 1691. He seems to have been a man of critical mind and extensive learning.

His principal works were:

Medicina Critica (1670);

Paraenesis ad Docentes occupata circa Institutionum Medicarum Emendationem (1673);

Irenicum Numae Pompilii cum Hippocrate (1689);

Supellex Botanica (1675);

Character Naturalis Plantarum (1676).

Lorenzo Bellini

Lorenzo Bellini (1643-1704), Italian physician and anatomist, was born at Florence on the September 3, 1643. At the age of twenty, when he had already begun his researches on the structure of the kidneys and had described the papillary ducts (also known as Bellini's ducts), as published in his book *Exercitatio Anatomica de Structura Usu Renum* (1662) (it became one of his best known treatises), he was chosen professor of theoretical medicine at Pisa, but soon after was transferred to the chair of anatomy. In *Exercitatio Anatomica de Structura et Usu Renum* he showed that the kidney was not a solid organ but was composed of ducts (which now bear his name). Bellini sincerely believed his description to be the first, but 10 years

after his death Eustachio's observations came to light and were published by Lancisi (1714). Nowadays it is universally recognised that the credit for the first description of the collecting tubules goes to Eustachio and that Bellini's contribution lies in his suggestion that urine is separated from the blood by a distinct anatomical arrangement which would become known as the kidney glomeruli.

After spending thirty years at Pisa, he was invited to Florence and appointed physician to the grand duke Cosimo III, and was also made senior consulting physician to Pope Clement XI. In 1663 he published *De urinis et pulsibus*, in which he recognized the value of urine in aiding diagnosis. His works were published in a collected form after his death as *Opera omnia* at Venice in 1708. He died at Florence on the January 8, 1704. His works were published in a collected form at Venice in 1708.

See also: Lilien OM. Marcello Malpighi (1628-1694) and Lorenzo Bellini (1643-1704). *Invest Urol.* 1971, 8(6): 698-9.

Jacob Le Mort

At the death of De Maets in 1690, Le Mort (1650 – 1718) was given the management of the chemistry laboratory at Leiden. He became Ordinarius Professor Chymiae, but the approval of his promotion was obtained in 1697.

For Jacob Le Mort every movement of the matter derived from the ethereal molecules, and in the alterations of humours considered the shape and extent of the slightest particles and pores more than the salts ratio (Sprengel). Le Mort's *Chimia, Rationibus et Experimentis ...* of 1688 was aimed at medical students. The five chemical principles are mercury or spirit, sulphur or oil, salt, phlegm and earth and the reader is presented with the expected description of chemical processes and equipment before going on to the chemical recipes. The medical tenor of the volume is modified only in the opening pages where Le Mort discussed the goal of chemistry. Here

the medical or pharmaceutical goal is only the second of four. The first is contemplative chemistry which deals with the chemical anatomy of bodies through the use of fire. The third is metallurgy and the last is transmutation or alchemy.

At his death Boerhaave added the Chair of Chemistry to those in medicine and botany that he already held.

John Allen

John Allen (1660? – 1741) was a British physician of the eighteenth century, who deserves being remembered for a series of inventions, but most importantly, from a 'medical' point of view, for his highly praised manuscript, the *Universae Medicinae Practicae, sive Doctissimorum Virorum de Morbis Eorumque Causis ac Remediis Judicia*, first being published in 1719, which long served as a text-book for medical students of the time, and also as a reference book for practitioners throughout European countries, for several decades after its original first publication. It contains the opinions (*Sententiae*) of the most celebrated authors of all ages, from Hippocrates, Galen and Avicenna up to Allen's contemporaries, concerning a wide number of diseases, their causes, signs, symptoms, and therapeutical remedies where available. The manuscript also includes his own observations (one of his concerns having been eating disorders, specifically anorexia and bulimia) (Mezzogiorno et Al., 2006).

Mezzogiorno A, Iorio L, Esposito A, Flamourakis M, Esposito V: Renal diseases in John Allen's "Synopsis Universae Medicinae Practicae..." J Nephrol 2006;19 Suppl 10: S98-101.

Friedrich Hoffmann

Dr Hoffmann (1660 - 1742), the son of a physician of the same name (d. 1675,

confusingly his father's name was sometimes spelt Hofmann), was a German physician and professor of medicine born in Halle and educated in Jena; he introduced ether into medicine under the brand name Anodyne, "Hoffmann's anodyne" or compound spirit of ether also contained ethyl alcohol. It was used to treat intestinal cramps, earache, toothache, kidney stones, gallstones, painful menstruation and much else besides.

This German doctor, one of the great systematists of his time, conceived the idea of the human body as a mechanical system in perennial movement. According to Hoffmann, diseases were the result of a deficiency in tone (atony, treated with tonic drugs) or of excessive tone (spasm, cured with sedative drugs). He believed in a vital substance "finer than all other matter, but not exactly spirit, soul or mind". This kept the body in a state of tonic equilibrium. Disease resulted from excess or deficiency of tonus - spasm or atony. His nine-volume series Systematics of Rational Medicine introduced the concept of muscle tone as an overall measure of health.

He was the most important of the Iatromechanists. He believed an ether-like "vital fluid" to be present in the nervous system and to act upon the muscles, giving them "tonus". He was a writer of extraordinary versatility, and the first to perceive pathology as an aspect of physiology.

He visited England in 1684 and established contact with various scientific men including Robert Boyle. On his return to Halle he was appointed professor of medicine. He taught and practiced at Halle from 1693. He studied and wrote on such varied topics as pediatrics, mineral waters, and meteorology; introduced many drugs into practice and was among the first to describe several diseases, including appendicitis and German measles, and to recognize the regulatory role of the nervous system. His approach to physiology was mechanistic.

He wrote a witchcraft book "Dissertation de Potentia Diaboli" for his student Büching.

In the writings of Friedrich Hoffmann we can observe medical thought in a period of transition. His *Fundamenta Medicinae*,

published in 1695, shows the conflict of the old and the new and at the same time synthesizes many different currents prevalent at the end of the 17th century.

Chief professor in cardiology of the newly founded University of Halle wrote “that the origins of coronary heart disease lie in the reduced passage of blood within the coronary arteries”.

He was a leading medical systematist of the first half of the eighteenth century. Although not a notably original thinker, he became a highly influential teacher and practicing physician in Germany, systematizing coherently the Galenic, iatromechanical, and iatrochemical aspects of the phenomena of health and disease. The attention he focused on the role of the nervous system in physiology and pathogenesis contributed to a gradual shift in medical approach, namely from preoccupation with so-called humors and vascular hydrodynamics to that with neuromuscular action and sensibility. This transformation was reflected in the subsequent medical systems of Cullen and John Brown

In the history of the concept of depression, as advances in chemistry were made in the second half of the last millennium, new theories were formulated. A disturbance of the acidity in the body fluids was offered as an explanation of melancholia. Recommendations to re-establish a balance of the blood acidity via dietary means was offered as treatment. At this point, Friedrich Hoffmann came along and disclaimed the existence of the body humours. He offered a mechanical concept of change in the dura mater. Through him, therapeutic importance of mineral spring water was emphasized. This led to the development of spas in Europe and later in America and this was actually found to be helpful for some cases of mild depressions.

He believed, in agreement with Genesis, that God had made mankind distinct from the animal world. He taught that animals were material only, while people received a spirit or soul from their Creator.

Herman Boerhaave

Herman Boerhaave (Voorhout, December 31, 1668 - Leyden, September 23, 1738) was a Dutch humanist and physician of European fame. He is regarded as the founder of the clinical teaching and of the modern academic hospital. His main achievement was to demonstrate the relation of symptoms to lesions.

Herman Boerhaave was always designed, by his father, for the ministry, and, with that view, instructed by him in grammatical learning, and the first elements of languages; The studies of young Boerhaave were, about this time, interrupted by an accident: in the twelfth year of his age, a stubborn, painful, and malignant ulcer, broke out upon his left thigh; his own pain taught him to compassionate others, and his experience of the inefficacy of the methods then in use, incited him to attempt the discovery of others more certain.

Being convinced of the necessity of mathematical learning, he began to study those sciences in 1687.

In 1690 he took his degree in philosophy and, on that occasion, discussed the important and arduous subject of the distinct natures of the soul and body.

He went to Hardewich, in order to take the degree of doctor in physick, which he obtained in July, 1693, having performed a publick disputation, “de utilitate explorandorum excrementorum in ægris, ut signorum”.

In 1701 he was appointed lecturer on the institutes of medicine at Leiden, recommended, by Van Berg, to the university, as a proper person to succeed Drelincurtius in the professorship of physick, and elected, without any solicitations on his part, and almost without his consent, on the 18th of May.

His reputation now began to bear some proportion to his merit, and extended itself to distant universities; so that, in 1703, the professorship of physick being vacant at Groningen, he was invited thither; but he

refused to leave Leyden, and chose to continue his present course of life.

In 1709 he became professor of botany and medicine, and in that capacity he did good service, not only to his own university, but also to botanical science, by his improvements and additions to the botanic garden of Leiden, and by the publication of numerous works descriptive of new species of plants.

On September 14, 1710, Boerhaave married Maria Drolenvaux, the daughter of the rich merchant, Alderman Abraham Drolenvaux. They had four children, of whom one daughter, Maria Joanna, lived to adulthood.

In 1714, when he was appointed rector of the university, he succeeded Govert Bidloo in the chair of practical medicine, and in this capacity he introduced the modern system of clinical instruction. Four years later he was appointed to the chair of chemistry also.

In 1722, his course, both of lectures and practice, was interrupted by the gout. His recovery, so much desired, and so unexpected, was celebrated on Jan. 11, 1723, when he opened his school again.

In 1727, he was seized with a violent burning fever. From this time he was frequently afflicted with returns of his distemper, which yet did not so far subdue him, as to make him lay aside his studies or his lectures, till, in 1729, he found himself so worn out, that it was improper for him to continue any longer the professorships of botany or chymistry, which he, therefore, resigned, April 28.

In the meantime, in 1728 he was elected into the French Academy of Sciences, and two years later into the Royal Society of London. The 23rd day of September, 1738, he died, after a lingering and painful illness, at Leiden. He was buried in St. Peter's Church, and the whole scholarly community of Europe mourned him. On November 4, 1738 his friend Albertus Schultens (1686-1750) delivered a eulogy based, in part, upon biographical notes left by Boerhaave.

Despite the fact that his medical system was mainly based on mechanics and he did not think that chemistry was yet an adult science, Boerhaave's most important contributions to

science were probably made in chemistry. He introduced exact, quantitative methods by measuring temperature and using the best available balances made by Fahrenheit.

Herman Boerhaave first described spontaneous rupture of the esophagus in 1724. It typically occurs after forceful emesis. Boerhaave syndrome is a transmural perforation of the esophagus to be distinguished from Mallory-Weiss syndrome, a nontransmural esophageal tear also associated with vomiting. Because it usually is associated with emesis, Boerhaave syndrome usually is not truly spontaneous. However, the term is useful for distinguishing it from iatrogenic perforation, which accounts for 85-90% of cases of esophageal rupture.

Boerhaave's influence spread throughout Europe. The medical faculties of the universities of Vienna, Göttingen and Edinburgh were begun or reformed after the system that Boerhaave instituted at Leiden. He was consulted about the curriculum of the Edinburgh Medical School and by some is regarded as a founding father. Boerhaave's reputation was known in China and his works were translated into arabic. He undoubtedly was a fine scholar himself since he knew all the European languages including Latin. In 1770, half a century after his death, Frederick the Great of Prussia ordered all medical professors in his realm to teach in the style of Boerhaave.

He wrote several important and lasting books, but he was first and last a clinician and a faithful Hippocratist who put the care of the patients above all considerations of theory. In his works he strived to found the medical sciences on a sound basis of natural science.

His principal works are: *Institutiones medicae* (Leiden, 1708); *Aphorismi de cognoscendis et curandis morbis* (Leiden, 1709), on which his pupil and assistant, Gerard van Swieten (1700-1772) published a commentary in 5 vols.; *Elementa chemiae* (Paris, 1724).

Johnson, S. "Hermann Boerhaave." *The Gentleman's Magazine*, Jan.-Apr. 1739. Reprinted in *The Works of Samuel Johnson, Vol. 14*. Troy, NY: Pafraets Company, pp. 154-184, 1903.

John De Gorter

John de Gorter (1689-1762) set up more accurate and ingenious investigation about the vital force and the so called vital spirits (Sprengel K. *Versuch einer pragmatischen Geschichte der Arzneikunde*. 5 Bde. Halle, Gebauer, 1792 – 1803). He was the first, in the modern age, that attributed at the plants something else than the mechanism, asserting that the movements are due to the same internal principle the function of the animal body depends on (*Exercitationes medicae quatuor*, p. 4.5. Amstelod. 1737. 4). Even if he considered this principle superior than the mechanism, he differentiated it from the soul, because it is active in the vegetable organisms also. Moreover, he knew the difficulties we find if we grant that the vital spirits gush out from the brain, when it is necessary to repeat every alternating contraction and relaxing of the muscles, it isn't possible to establish the hard meninx movement beginning from the other vital movements.

De Gorter must admit the existence of an activity principle other than the nervous fluid in all the parts of the human body: he called it with the diction of *vital motion*. He established that this vital motion it is not caused by the nerves or of the vital spirits that in the nerves are contained; in fact, the first ones have not any movements of that kind and the second ones, as fluids, have to comply with the laws of the same, having not the possibility to expanding and contracting in turn (*Ib.*, p. 19, 20). Likewise, he proves that the vital motion differs from the effects of elasticity (*Ib.*, p. 30, 31), and that the inflammations are not caused by a stagnation on the suffering part but by a stimulus on the vessels provided with the mentioned vital motion: so, the bleeding does not dissipate the stagnant blood, but mitigates the circulation speed (*Ib.*, p. 35).

In general, de Gorter shows clearly and hard the influence of the stimuli on the vital motion, and even if he had followed the Glisson's theories, he exposed the rules of the

excitement more in detail and clearly, exceeding Haller itself, because he ascribed this vital motion not only at the muscles but at all the body fibres (*Ib.*, p. 54).

A so excellent precursor of modern excitement theory supporters soon realized that not even Haller's irritability concept was enough to explain vital motions; in a following work, he detailed more minutely his opinion on the basic strength of the animal body, as of every part's own and norm of all the functions of the same. He differentiated it from the forces of the mechanism, from the elasticity, from the Haller's irritability and from the soul influence (*Exercitatio medica quinta de actione viventium particulari*. Amstelod. 1748. 4) (Sprengel K. *Versuch einer pragmatischen Geschichte der Arzneikunde*. 5 Bde. Halle, Gebauer, 1792 – 1803).

See also: Timmerman WA. Johannes de Gorter; a biographical sketch of his life and works. *Ned Tijdschr Geneeskd*. 1968, 6; 112(1): 35-41.

Gerard van Swieten

Gerard van Swieten (May 7, 1700 – June 18, 1772) was an Austrian physician of Dutch origin.

Swieten was born at Leiden. He was a pupil of Hermann Boerhaave and in 1745 became the personal physician of the Austrian Empress Maria Theresa. In this position he implemented a transformation of the Austrian health service and medical university education; he caused the monarch to reinforce state influence on the universities (University Organisation) and, above all, to reform medical education and training: he established new chairs, botanical gardens, a medical training hospital, chemical and physics laboratories, invited renowned professors, etc. van Swieten therefore is considered the founder of the first Vienna School of Medicine. He also raised medical standards in Vienna by improving hospitals and medical institutions in co-operation with J. v. Quarin;

furthermore, founded various institutions such as schools for midwives and veterinarians and foundlings hospitals. He vehemently supported the construction of a new university building (University of Vienna). As director of the Imperial Library he opened one reading room to the public and as head of the Imperial Study and Book Censorship Commission relaxed the regulations of censorship.

During the eighteenth century his five volumes containing Commentaries upon the aphorisms of Herman Boerhaave were considered to be the best medical reference work. In his organizational work van Swieten can be characterized as a medical manager *avant la lettre* and at the same time as a (brilliant) epigone of his master Boerhaave and the Leyden clinic. In his writings too he closely followed the ideas and papers of Boerhaave and others, and also here he was an epigone, be it a great one. His Commentaria are at the present time still valuable to inform us about the state of the art in eighteenth century medicine. These books really deserve a timely overall study.

Swieten was the father of Gottfried van Swieten.

A genus of mahogany was named after him, *Swietenia*, by Nikolaus Joseph von Jacquin.

See also: "Frederiks JA. Gerard van Swieten (1700-1772). A celebrated and faithful disciple of Boerhaave. *Gewina*, 2000; 23 (2): 140-150".

Albrecht von Haller

Albrecht von Haller (October 16, 1708 – December 7, 1777), Swiss anatomist and physiologist (he is especially known for his illustrations of the arterial system), was born of an old Swiss family at Berne. Prevented by long-continued ill-health from taking part in boyish sports, he had the more opportunity for the development of his precocious mind. At the age of four, it is said, he used to read and expound the Bible to his father's servants; before he was ten he had sketched a Chaldee grammar, prepared a Greek and a Hebrew

vocabulary, compiled a collection of two thousand biographies of famous men and women on the model of the great works of Bayle and Moréri, and written in Latin verse a satire on his tutor, who had warned him against a too great excursiveness. When still hardly fifteen he was already the author of numerous metrical translations from Ovid, Horace and Virgil, as well as of original lyrics, dramas, and an epic of four thousand lines on the origin of the Swiss confederations, writings which he is said on one occasion to have rescued from a fire at the risk of his life, only, however, to burn them a little later (1729) with his own hand.

Haller's attention had been directed to the profession of medicine while he was residing in the house of a physician at Bid after his father's death in 1721; and, following the choice then made, he while still a sickly and excessively shy youth went in his sixteenth year to the university of Tübingen (December 1723), where he studied under Camerarius and Duvernoy. Dissatisfied with his progress, he in 1725 exchanged Tübingen for Leiden, where Boerhaave was in the zenith of his fame, and where Albinus had already begun to lecture in anatomy. At that university he graduated in May 1727, undertaking successfully in his thesis to prove that the so-called salivary duct, claimed as a recent discovery by Coschwitz, was nothing more than a blood-vessel.

Haller then visited London, making the acquaintance of Sir Hans Sloane, Cheselden, Pringle, Douglas and other scientific men; next, after a short stay in Oxford, he visited Paris, where he studied under Ledran and Winslow; and in 1728 he proceeded to Basel, where he devoted himself to the study of the higher mathematics under John Bernoulli. It was during his stay there also that his first great interest in botany was awakened; and, in the course of a tour (July/August, 1728), through Savoy, Baden and several of the Swiss cantons, he began a collection of plants which was afterwards the basis of his great work on the flora of Switzerland. From a literary point of view the main result of this, the first of his many journeys through the Alps, was his poem entitled *Die Alpen*, which

was finished in March 1729, and appeared in the first edition (1732) of his *Gedichte*.

In 1729 he returned to Berne and began to practise as a physician; his best energies, however, were devoted to the botanical and anatomical researches which rapidly gave him a European reputation, and procured for him from George II in 1736 a call to the chair of medicine, anatomy, botany and surgery in the newly founded university of Göttingen. He became a fellow of the Royal Society in 1743, and was ennobled in 1749.

The quantity of work achieved by Haller in the seventeen years during which he occupied his Göttingen professorship was immense. Apart from the ordinary work of his classes, which entailed upon him the task of newly organizing a botanical garden, an anatomical theatre and museum, an obstetrical school, and similar institutions, he carried on without interruption those original investigations in botany and physiology, the results of which are preserved in the numerous works associated with his name; he continued also to persevere in his youthful habit of poetical composition, while at the same time he conducted a monthly journal (the *Göttingische gelehrte Anzeigen*), to which he is said to have contributed twelve thousand articles relating to almost every branch of human knowledge. He also warmly interested himself in most of the religious questions, both ephemeral and permanent, of his day; and the erection of the Reformed church in Göttingen was mainly due to his unwearied energy.

Notwithstanding all this variety of absorbing interests he never felt at home in Göttingen; his untravelled heart kept ever turning towards his native Berne (where he had been elected a member of the great council in 1745), and in 1753 he resolved to resign his chair and return to Switzerland.

The twenty-one years of his life which followed were largely occupied in the discharge of his duties in the minor political post of a *Rathhausammann* which he had obtained by lot, and in the preparation of his *Bibliotheca medica*, the botanical, surgical and anatomical parts of which he lived to complete; but he also found time to write the three philosophical romances *Usong* (1771), *Alfred* (1773) and *Fabius and Cato* (1774), in which his views as to the respective merits of despotism, of limited monarchy and of aristocratic republican government are fully set forth.

About 1773 the state of his health rendered necessary his entire withdrawal from public business; for some time he supported his failing strength by means of opium, on the use of which he communicated a paper to the Proceedings of the Göttingen Royal Society in 1776; the excessive use of the drug is believed, however, to have hastened his death. Haller, who had been three times married, left eight children, the eldest of whom, Gottlieb Emanuel, attained to some distinction as a botanist and as a writer on *Swiss historical bibliography* (1785-1788, 7 vols).

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Bridging Eastern and Western Psychiatry Мост между Восточной и Западной психиатрией, indexed in the Elsevier database.

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