



## **AVENA L. – GENUS**

**Order:** Poales Small (APG IV), Cyperales Hutch. (Cronquist)

**Family:** *Poaceae* (R.Br.) Barnhart (syn.: *Gramineae* Juss.)

**Tribe:** Aveneae Dumort.

## **AVENA SATIVA L.**



*Fig. 1: Avena sativa (picture from [Zell])*

**Primary functionality:** Saturn [Angelini]; Mercury [Junius]

**Secondary functionality:**

**Nature:** Warm and moist (seed, milky oat) [Holmes, Wood]; “as a

*medicine it cools, but as food it warms” [Durante]*

<i>Taste:</i>	Sweet and somewhat oily
<i>Tropism:</i>	Brain and nerves, reproductive organs and neuroendocrine system
<i>Humoral actions</i> <sup>1</sup> :	Eliminates pathological Phlegm and nourishes correct Phlegm, resolves Tension stagnation and supplements Tension where deficient (metabolism, immunity, neuroendocrine system, sexual organs); nourishes the Blood
<i>Clinical actions:</i>	Anticatarrhal, antidepressant, antidyspeptic, antihemorrhoidal, anti-neurotic, antipruritic, antiseborrheic, antispasmodic, astringent, bechic, cerebrospinal trophorestorative, demulcent, diuretic, emollient, hypoglycaemiant, laxative, nervine, nutritive, orexigenic, pectoral, resolvent, refreshing, remineralizing, sedative, stimulant (nervine, polyendocrine), tonic (nervine, nutritive, permanent)
<i>Used parts:</i>	Seeds (collected at maturity or at the milky stage), straw, aerial parts (seeds and stalk together) collected at the milky stage, flowering aerial parts (stalk and flowers), seed sprouts

## Description

*Avena sativa* L. is a rustic cereal with wide adaptability to cold and humid climates, grows up to 1800 m and has a short reproductive cycle. It is usually grown in marginal areas because the best soils are left to wheat, which is more demanding in terms of soil fertility. [Peroni]

It probably spread to Europe during the Bronze Age (2nd millennium BC). The species was not appreciated by the ancient Romans (emblematic, in this sense, is the phrase of Pliny the Elder “*primum omnium frumenti vitium avena est*”<sup>2</sup>), but the northern populations fed on it. In fact, it was the Celts and the Germans who introduced oats to the Romans who then spread them throughout the Mediterranean area. [Peroni]

Commonly cultivated today for both human and animal consumption, the mature seeds (caryopses) of the plant, deprived of the indigestible external integument, constitute the part destined for human consumption.

Very energetic and slightly stimulant, oats are very rich in mineral salts and vitamins. Either as seeds, rolled oats or flour, they are particularly suitable as food for infants, growing children and the elderly [Duraffourd-Lapraz, Holmes]. It is also recommended for convalescence and in case of fatigue [Piterà].

Oat has a stimulating effect on the thyroid and on the pancreas. More suitable as a winter food, oats support the thyroid in its fight against the cold. In summer, on the contrary, it runs the risk of exceeding its goal. [Duraffourd-Lapraz]

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1 See the “Notes on humors” paragraph.

2 Transl.: “Oat is the first of all wheat defects.”

Oats enter into the composition of a decoction of cereals that can be given to infants: grind 4 tablespoons of a mixture of equal parts of oats, wheat and barley, and incorporate them into 1.5 liters of cold water; boil gently until reduced to 1 litre, then strain and sweeten with honey. [Duraffourd-Lapraz]

Oatmeal water is sometimes used to dilute “baby foods” and milk when children are not well nourished and suffering from summer diarrhoeal complaints. It can also be used as a demulcent drink in diarrhea and dysentery of adults. When so used, it should be about the consistence of milk. [Felter2]

According to Peter Holmes, its use as a dietary ingredient is highly beneficial in conditions of gastric hyperacidity (with or without ulcers), gallbladder disorders (including jaundice), chronic skin, rheumatic and circulatory conditions, and in diabetes [Holmes]. Some other authors, instead, suggest to avoid oats in case of dyspepsia accompanied with stomach acidity [Felter, Grieve], diabetes mellitus or “amylaceous indigestion” [Felter2].

The seeds (collected when ripe or during the so-called “milky” phase of maturation<sup>3</sup>), the straw (the dried culm), the whole plant collected while flowering or during the milky phase, and the sprouted seeds are used in herbal medicine.

Oat is mainly a nourishing and nerve tonic, stimulating and relaxing at the same time, antispasmodic, as well as a polyendocrine rebalancer. Its effects vary somewhat depending on the specific part of the plant used.

Preparations based on dried ripe seeds are particularly suitable for treating digestive tract diseases and psychophysical exhaustion. [Paoluzzi]

The whole plant and the fresh flowering tops are used, instead, as a tincture, mainly (but not only) for the treatment of disorders of the nervous system, of the mind and in neuroasthenic syndromes (cf. [Holmes, Paoluzzi]).

Straw has dechlorinating and uricosuric diuretic properties, and is emollient, antipruritic and antiseborrheic. [Peroni]

The seed in the milky stage (usually called “milky oat”) produces a sweet fluid that superficially resembles almond milk. Milky oat strengthens the connective tissue, the skin, the mucosa, and the nerves and is a very important tonic for the nervous system depleted by stress, prolonged illness, sexual excesses, or drug use [Wood]. “*Exhaustion is the keynote*” [Wood], and dryness is another specific indication commonly associated to milky oat.

The modern use of this remedy goes back to Eclectic days. Harvey Felter, in his *King’s American Dispensatory* [Felter], wrote: “*A strong tincture may be prepared by crushing or pounding to a pulp the entire oat-plant when the grain is ‘in the milk.’*” More recently, Michael Moore advocated the use of the milky grain alone. Either one is fine and will yield excellent results. [Holmes]

Sweet, warm and moist in quality, milky oat is a *nutritive restorative* for individuals who need deep replenishing and nourishing in weak and atrophied conditions. It is a broad-acting *trophorestorative* to the nervous, endocrine, musculoskeletal and epidermal systems, and also to the heart organ. In Chinese medicine terms, it is a *Blood, Qi and Essence tonic* rolled into one. [Holmes]

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<sup>3</sup> The *milky stage* of ripening is called this way because in this phase the oat grains are filled with a thick white fluid, similar to milk, that oozes when the seeds are squeezed. This phase generally lasts only a few days, after which the seed content becomes harder (*waxy ripening stage*).

Milky oat is also an important tonic for Kidney functions and should be considered for Kidney Yang deficiency and Kidney and Liver depletion. [Holmes]

It's a powerful tonic in the Lung and Spleen Blood deficiency. It also supplements Blood in case of corpus luteum insufficiency. [Paoluzzi]

According to the Eclectic physician Finley Ellingwood, *"its selective influence is directly upon the brain and upon the nutritive functions of the organism, increasing nerve force and improving the nutrition of the entire system. The influence of a single full dose is promptly felt, similar to the influence of any active stimulant, but more permanent. It is a stimulant, sedative and direct nutritive tonic, apparently restoring the wasted elements of nerve force. [...]"*

*Because of its selective action upon the nervous structure which supplies the reproductive organs, it will be found to allay nervous excitement, nervous palpitation of the heart, insomnia and mental weakness, or failure and general debility caused by masturbation, over sexual indulgence, or onanism. It is a sovereign remedy in impotency. This writer has had better satisfaction in the use of this agent in the temporary impotence of young newly married men, than from any other single remedy or combination of remedies. If there be prostatic or other local irritation, a combination of this agent with saw palmetto will cover the field."* [Ellingwood]

According to Thomas J. Lyle, Eclectic, *"it is an excellent nervine tonic for females, especially where there is a tendency to excessive flow and is useful more or less during pregnancy, especially to those who are weakly, anaemic and nervous."* [Lyle]

It has also been used in dishabituation from alcohol, drugs (opium, morphine), tobacco and in allaying the bad effects of morphine habit<sup>4</sup>. [Boericke, Clarke, Ellingwood, Fyfe, Fyfe2, Piterà]

The oat composition is quite complex. Particularly abundant in the seeds are: trigonelline (neuromuscular stimulant), avenin (tonic, with CNS antidepressant and thyroid stimulating activity) and gramine (also present in barley, has a relaxing, anxiolytic and antidepressant action and is active in cases of insomnia and nervousness).

Besides indole alkaloids (gramine, avenine and trigonelline) there are also: biological amines; avenanthramides (reduce proinflammatory cytokines and probably act on histamine H<sub>1</sub> receptors); benzoxazinones (avenalumin 1-111; antifungal properties); biostimulins; phytohormones; phytosterols; flavonoids; glucovanillin; polysaccharides (beta-glucans, galactoarabinoxylans, fructans); steroidal saponins (avenacosides A-B, aglycones: nuatigenin and isonuatigenin); triterpenic saponins (avenacin A1-2, avenacin B1-2, avenestergenins A1-2, avenestergenins B1-2; anxiolytic and antidepressant properties); a substance with activity similar to the gonadotropin releasing hormone (LHRH); vitamins ( $\alpha$ -tocotrienol, B1, B2, D, P); vitaminoids (choline, considered a B group vitamin) and a significant mineral component (silicic acid, calcium, magnesium, potassium, phosphorus, with a particularly high content of iron, zinc and manganese). [Piterà]

*Avenacosides* have anxiolytic and antidepressant properties and stimulate the hypothalamic-pituitary axis, so exhibiting a polyendocrine stimulating activity. They stimulate the thyroid and

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<sup>4</sup> However it should be emphasized that not all Eclectic authors agree on the real effectiveness of the remedy. According to Harvey W. Felter, *"in the nervous erethism or the enervated conditions following fevers and giving rise to spermatoc losses [the tincture of the whole plant in the milky stage] is sometimes effectual, but it seldom benefits such a state when due to prostatic irritation, masturbation, or sexual excesses. [...]"* It is not a remedy of great power and will be found effective, probably, in but few of the conditions mentioned. However, many agents of this type sometimes, in exceptional cases, accomplish that which no other remedy seems to do. [...] The much-heralded reputation of this drug to enable the morphine habitué to throw off the habit has not been sustained. In our own experience we have utterly failed to accomplish any good with it in any form of drug habit." [Felter2]

have adaptogenic, anti-stress and sedative properties. They also possess estrogenic and gonadotropic properties (these substances are also implicated in the increase of free testosterone with increased libido in both men and women). [Piterà]

*Glucans* stimulate cytokines, which, in turn, promote the proliferation and differentiation of macrophages, T and B cells, increasing the production of antibodies; they also stimulate cellular metabolism and anticancer activity. Among the polysaccharides, great importance is to be attributed to  $\beta$ -glucan, responsible, among other things, for its cholesterol-lowering effects. [Piterà]

## Properties

### ***Temperature and taste***

According to the Renaissance authors, oats “*plastered, dries and digests slightly, and without any mordacity. But it is of a somewhat more frigid nature [than barley]: and it still has some astringency, so that it can benefit the fluxes of the body*” [Mattioli]. And again, “*as a medicine it cools, but as food it warms*” [Durante].

Oat is generally recognized as sweet (herb, seed, milky oat), and somewhat oily (seed, milky oat), warm (herb, seed, milky oat) and moist (seed, milky oat). [Holmes, Wood]

According to Leonardo Paoluzzi, oats are sweet-bitter and hot [Paoluzzi].

### ***Signature***

Different signatures are attributed to oats by the various authors. For example, it is considered saturnine by Angelo Angelini and mercurial by Manfred Junius [Angelini, Junius].

Its content in silica and mineral salts certainly makes it able to stimulates the organic processes of consolidation (bones, connective tissue, skin, mucous membranes, ...) but at the same time it has a particular affinity for the nervous system (Mercury, Moon) and for the male and female gonads and the uterus (Moon).

### ***Tissue Phases***

N/A

## Actions and indications

### ***Humoral actions***

It eliminates the pathological Phlegm and nourishes the correct Phlegm, resolves Tension stagnation and supplements Tension where deficient (metabolism, immunity, neuroendocrine system, sexual organs). Being also warm, it also nourishes the Blood.

## ***Tropism***

Oat has a special affinity for brain and nerves, the reproductive organs and the neuroendocrine system. [Holmes]

The meridians entered (TCM) are Spleen, Kidney, Liver, Heart, Chong Mai, Ren Mai, Du Mai. [Holmes]

## ***Clinical actions***

Anticatarrhal, antidepressant, antidyspeptic, antihemorrhoidal, anti-neurotic, antipruritic, antiseborrheic, antispasmodic, astringent, bechic, cerebrospinal trophorestorative, demulcent, diuretic, emollient, hypoglycaemiant, laxative, nervine, nutritive, orexigenic, pectoral, resolvent, refreshing, remineralizing, sedative, stimulant (nervine, polyendocrine), tonic (nervine, nutritive, permanent).

## ***Principal actions***

Anticatarrhal (stalk decoction). [Atzei]

Antidepressant(tincture). [Peroni]

Antidyspeptic (seeds). [Atzei]

Antihemorrhoidal (seeds). [Atzei]

Anti-neurotic. [Fyfe<sup>2</sup>]

Antipruritic (straw). [Peroni]

Antiseborrheic (straw). [Peroni]

Antispasmodic (seeds). [Felter, Fyfe, Fyfe<sup>2</sup>, Grieve]

Astringent [Mattioli]:

- Liter.: "*Polte<sup>5</sup> is prepared from this, which is used to stagnate the body. Its juice is usefully given in drink to those who cough.*" (Dioscorides, in [Mattioli])

Bechic (stalk decoction). [Atzei]

Cerebrospinal trophorestorative (general and local). [Thurston]

Demulcent (oatmeal). [Felter]

Diuretic [Atzei, Fyfe, Peroni]:

- Infusion or decoction of seeds, stalk decoction. [Atzei]
- Dechlorinating, uricosuric diuretic (straw). [Peroni]
- Straw decoction (3-5%), boil for at least 30 minutes, 3-5 glasses a day; syrup obtained with 10 g straw decoction (6-8%) and 90 g simple syrup: 4-8 tablespoons per day, dissolved in water or soft drinks. [Peroni]

Emollient. [Paoluzzi, Peroni]

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<sup>5</sup> A kind of white polenta.

Hypoglicemiant. [Paoluzzi]

Laxative (seeds). [Atzei, Fyfe]

Nervine, nerve tonic. [Felter, Felter2, Gieve, Lyle]

Nutritive (oatmeal, seed decoction) [Felter]:

- Liter.: *“In the form of gruel, either salted or seasoned with sugar, honey, or the pulp of fruit, it is an agreeable nutritive during convalescence from acute diseases, in the puerperal state and in some chronic diseases (oatmeal).”* [Felter]
- Liter.: *“One ounce of oatmeal in 2 quarts of water, boiled down to 1 quart and then strained, forms a very nutritive gruel. It may be rendered more palatable by the addition of vegetable acids, aromatics, sugar, prunes, raisins, etc.”* [Felter]

Orexigenic (appetite stimulant, bud extract). [Piterà]

Pectoral (seeds). [Atzei]

Resolvent (seeds). [Fyfe]

Remineralizing. [Paoluzzi]

Refreshing (seeds). [Atzei]

Sedative. [Ellingwood, Paoluzzi]

Stimulant [Ellingwood, Felter, Felter2, Fyfe, Fyfe2, Grieve, Paoluzzi, Peroni]:

- Polyendocrine stimulant (bud extract<sup>6</sup>). [Peroni]
- Nerve stimulant (seeds) [Ellingwood, Fyfe, Fyfe2]:
  - Liter.: *“There are many well-known and lauded agents that are hardly to be compared with this for prompt action upon the nervous system.”* [Ellingwood]
- Mild stimulant (tincture of the whole plant in the milky stage). [Felter2]

Tonic (seeds, milky oat, bud extract) [Atzei, Ellingwood, Fyfe, Piterà]:

- Tonic (bud extract). [Piterà]
- Permanent tonic [Ellingwood].
- Nervine tonic. [Felter, Felter2, Grieve, Lyle]
  - Nerve tonic (tincture of the whole plant in the milky stage). [Felter2]
  - Liter.: *“This is a soothing, demulcent, gently stimulating, nutritious nervine tonic.”* [Lyle]
- Nutritive tonic. [Atzei, Ellingwood]

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<sup>6</sup> Peroni in his book attributes this function to the mother tincture, but the procedure that the author describes for the preparation of this tincture is actually the one used for the preparation of the bud extract (see [Peroni]). The actions described are also typical of the bud extract.

## Specific indications

### General

- **Exhaustion**, nervous exhaustion, psychophysical exhaustion, weakness, fatigue, chronic fatigue, asthenia, general debility; also in convalescence (seeds, milky oat, tincture of fresh flowering plant, bud extract, infusion of aerial parts, decoction of seeds sweetened with honey, seed flour dissolved in cow's milk) [Boericke, Clarke, Ellingwood, Felter, Felter2, Fyfe2, Holmes, Lyle, Paoluzzi, Peroni, Piterà, Scholten, Scholten2, Wood]:
  - from anorexia, anemia, overwork, stress, pregnancy, etc. [Holmes]
  - from masturbation, over sexual indulgence, or onanism<sup>7</sup> [Ellingwood, Fyfe2, Holmes]:
  - from excessive brain work [Ellingwood, Scholten, Scholten2]:
    - Liter.: *"In the overworked conditions of brain workers – ministers, physicians or lawyers - the general prostration from great anxiety and worry, it acts in the same lines as phosphorus and in many cases fully as satisfactorily."* [Ellingwood]
  - from protracted, chronic, exhausting or debilitating disease (eg., fever, typhoid; milky oat, tincture, oatmeal) [Boericke, Felter2, Fyfe2, Holmes, Scholten, Scholten2, Wood]:
    - Liter.: *"Exhaustion following typhoid and other low fevers and is thought to hasten convalescence, particularly where there is much nervous involvement and enfeebled action of the heart"* (tincture of the whole plant in the milky stage). [Felter2]
  - during the asthenic stages of inflammatory and exanthematous diseases. [Fyfe2]
    - Liter.: *"Oatmeal gruel, when not otherwise contraindicated, as in diabetes mellitus or amylaceous indigestion, is an excellent and easily digested food in convalescence from exhaustive illness. It may be sweetened if desired."* [Felter2]
  - from drug addiction [Wood], tobacco [Peroni, Wood].
  - Spasmodic and nervous disorders, with exhaustion. [Ellingwood, Felter]
  - Nervous debility of convalescence. [Ellingwood, Felter, Felter2]
    - Liter.: *"In the convalescence of prostrating disease, and during the asthenic or later stages of inflammatory and exanthematous disease and diphtheria, it is as important as quinine and strychnia, and certainly as reliable."* [Ellingwood]
- Underweight. [Holmes]
- Demineralization (bud extract). [Piterà]
- Low resistance (milky oat). [Holmes]
- Impaired physical and mental development in children (especially slow bone growth; milky oat). [Holmes]
- Wasting diseases of the elderly (milky oat) [Ellingwood, Fyfe2, Wood], general disorders of senescence (bud extract) [Piterà].
- Paralysis [Ellingwood, Fyfe2, Wood]:

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<sup>7</sup> Felter disagrees; Liter.: *"it seldom benefits such a state when due to prostatic irritation, masturbation, or sexual excesses."* [Felter2]



- Paralysis of the elderly (milky oat). [Ellingwood, Fyfe2, Wood]
- Local paralysis (milky oat, tincture). [Boericke, Ellingwood, Fyfe2, Holmes, Scholten, Scholten2, Wood]
- Paralysis of the throat; in/after diphtheria (milky oat, tincture). [Boericke, Ellingwood, Fyfe2, Scholten, Scholten2, Wood]
- Paralytic tendencies (seeds). [Fyfe, Fyfe2]
- Paralysis agitans. [Ellingwood]
- Liter.: *“The persistent use of this remedy, especially if conjoined with capsicum or minute doses of strychnine, will be found of great assistance in certain cases of paralysis.”* [Ellingwood]
- Holds shoulders tight and raised; or shrugged (milky oat). [Wood]
- To increase psychophysical performance (seeds). [Peroni]
- Cool skin and cool or cold extremities. [Ellingwood]

### *Mind*

- Inability to keep the mind fixed on any one subject; lack of focus, concentration (milky oat, tincture of fresh flowering plant) [Boericke, Clarke, Fyfe2, Holmes, Scholten, Scholten2, Wood]
  - Especially when due to masturbation or sexual irregularities. [Clarke]
- Memory loss (milky oat, tincture). [Holmes, Wood]
- Depression, chronic depression, asthenic depression, melancholia (seeds, milky oat, tincture, bud extract). [Ellingwood, Fyfe, Fyfe2, Holmes, Peroni, Piterà, Scholten, Scholten2].
- Anxiety [Holmes, Peroni, Piterà]: (milky oat; infusion of 2-3% aerial parts, 3-5 glasses a day; bud extract) [Piterà].
  - Acute and chronic anxiety (aerial parts, bud extract). [Peroni, Piterà]
- Spaceyness (milky oat). [Holmes]
- Nervous excitement, nervousness, nervous tension (milky oat, bud extract) [Ellingwood, Holmes, Piterà].
- Irritability, peevishness [Ellingwood, Scholten, Scholten2]. Irritability of the nerves [Lyle].
  - Liter.: *“In the irritability resulting from nervous prostration, from paralysis, from the use of opium, or alcohol [...] and in the irritation and depression resulting from dysmenorrhea, it is effective.”* [Lyle]
- Vagaries of thought [Ellingwood, Scholten, Scholten2]; vagary of thought and manner (seeds, milky oat) [Fyfe, Fyfe2, Wood].
- Morbid desires and fancies. [Ellingwood]
  - Mind symptoms *“usually accompanied with autotoxemia which demands persistent elimination.”* [Ellingwood]

- Hysteria (seeds, tincture). [Fyfe, Fyfe2, Lyle, Scholten, Scholten2]
- Anorexia (bud extract). [Piterà]
- Bulimia (tincture). [Peroni]
- Nervous agitation (bud extract). [Piterà]
- Anhedonia (bud extract). [Piterà]
- Anguish (bud extract). [Piterà]
- Hyperemotivity (bud derivative). [Piterà]

### *Hormonal*

- Polyendocrine and metabolic disorders (pituitary, thyroid, pancreas, adrenal, gonads), hormonal imbalance (milky oat, bud extract). [Holmes, Paoluzzi, Peroni, Piterà]
  - Functional thyroid disorders (both hypothyroidism and hyperthyroidism, bud extract). [Piterà]
  - Thyroid deficiency with fatigue, depression, cold extremities, constipation, weight gain (milky oat). [Holmes]
  - Hypothyroidism. [Paoluzzi]
  - Hyperglycemia, diabetes (milky oat, seeds) [Holmes, Paoluzzi]; supports the endocrine functions of the pancreas (bud extract). [Piterà]
  - Estrogen deficiencies (milky oat, gemmoderivato). [Holmes, Piterà]
  - Hypotestosteronemia (gemmoderivato). [Piterà]
  - Hypothalamic-pituitary-adrenal axis stimulant (bud extract). [Piterà]

### *Nervous system*

- Neurasthenia, nervous exhaustion (seeds, milky oat, bud extract, tincture of fresh flowering plant) [Boericke, Clarke, Ellingwood, Felter, Felter2, Fyfe, Fyfe2, Holmes, Scholten, Scholten2, Wood]:
  - also from chronic addictions, drug withdrawal. [Holmes]
  - from stress, excessive duties, drug use, prolonged illness, sexual excess. [Wood]
  - Nervous prostration due to mental strain (seeds) [Fyfe, Fyfe2], intellectual asthenia (bud extract) [Piterà].
  - Nervous exhaustion consequent upon typhoid and other low fevers. [Felter]
  - Loss, deficiency of nerve power. [Ellingwood, Lyle]
    - Liter.: *“In general neurasthenia it promptly relieves the almost unbearable occipital headache, so constant, and evidenced by an enormous waste of the phosphates in the urine, common with nervous exhaustion.”* [Ellingwood]

- Liter.: *“In sexual neurasthenia it is the remedy par excellence, as it has a selective influence upon the nerve structure of the genito-urinary apparatus.”* [Ellingwood]
- Cerebral deficiency from excessive work or stress [Holmes], nervous prostration following mental strain (milky oat) [Wood], mental weakness [Ellingwood].
- Senile dementias (milky oat). [Holmes]
- Neuralgia, neuritis (milky oat). [Holmes]
- Multiple sclerosis (tincture, adjuvant). [Peroni]
- Nerve tremors [Boericke, Ellingwood, Fyfe2, Lyle, Peroni]:
  - of the aged. [Boericke, Scholten, Scholten2]
  - Chorea [Boericke, Ellingwood, Fyfe2, Lyle, Scholten, Scholten2]
  - Paralysis agitans. [Boericke, Ellingwood, Scholten, Scholten2]
  - Parkinson (tincture). [Peroni, Scholten, Scholten2]
- Epilepsy. [Boericke, Ellingwood, Scholten, Scholten2]
- Dishabituation from alcohol, drugs (opium, morphine), tobacco; bad effect from morphine habit (seeds, bud extract, tincture of fresh flowering plant). [Boericke, Clarke, Ellingwood, Fyfe, Fyfe2, Piterà, Scholten, Scholten2]:
  - Liter.: *“In the treatment of the morphine habit [...] it should be used in conjunction with capsicum, strychnine, xanthoxylum, or hyoscyamine hydrochlorate, and sustained in its action by persistent concentrated nutrition.”* [Ellingwood]
  - Liter.: *“In most cases in which the habitu  has not used more than four grains daily, the opiate may be abruptly discontinued, and even substituted, without any serious results. If a larger quantity than this amount has been taken for some time, it is better to gradually reduce the daily dose of morphine, in the usual manner, simply prescribing the avena in addition. The latter should be given in the same dose, as a rule, regardless of the amount of morphine taken. In other words, it is not necessary to increase the avena as the opiate is withdrawn. When the quantity of morphine has not exceeded four grains daily, it should be stopped at once, as above stated, and avena given in its stead, in fifteen drop doses, four times a day, in a wine-glassful of hot water. By this method the disagreeable after-effects will be much less than if the dose of morphine is gradually reduced, and the patient will find life quite bearable, as a rule, at the end of a week.”*<sup>8</sup> [Fyfe2]

### *Immune system*

- Autoimmune disorders (milky oat). [Holmes]
- Exanthematous diseases [Ellingwood]

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<sup>8</sup> As already reported, not all authors agree on its usefulness in morphine habit. For instance, Felter writes: *“A few years ago it was much lauded as a remedy to assist the morphine-consumer to throw off the habit, and to sustain the nervous system while undergoing that ordeal. We have, however, found it to exert but little good in this direction.”* [Felter]

- Liter.: *“If given in hot infusion during the course of acute exanthematous disease, it quickly determines the eruption to the surface and promotes convalescence.”* [Ellingwood]
- Immune deficiency, immune deficiency from stress (bud extract). [Piterà]

### Throat

- Paralysis of the throat in diphtheria (milky oat). [Boericke, Ellingwood, Fyfe2, Wood]
  - Liter.: *“The local paralysis of diphtheria, has no better antidote.”* [Ellingwood]

### Respiratory system

- Colds, coryza [Boricke, Ellingwood, Scholten, Scholten2]:
  - 20 drop doses in hot water hourly for a few doses. [Boericke]
  - Liter.: *“If twenty drops do not produce a feeling of warmth in the face and flushing of the skin, the next dose is increased.”* [Ellingwood]
- Tuberculosis (tincture of fresh flowering plant). [Clarke, Scholten, Scholten2]

### Head

- Headache (seeds, milky oat, tincture) [Fyfe2, Holmes, Scholten, Scholten2, Wood]:
  - with a *burning sensation on the top of the head*. [Fyfe2, Holmes, Scholten, Scholten2, Wood]
  - with *nervous weakness* (neurasthenia). [Ellingwood, Fyfe2, Holmes, Wood]
    - Liter.: *“Sick headache [...] accompanied with nervous weakness, are all promptly benefited by Avena Sativa, provided gastric acidity is neutralized.”* [Ellingwood]
  - Headache/occipital headache *extending down the spine and into the lower extremities* [Fyfe, Fyfe2, Wood]
  - Nervous headache [Boericke, Holmes, Felter2, Fyfe2, Ellingwood, Scholten, Scholten2]:
    - from exhaustion, overwork or depression. [Felter2]
    - associated with menstruation. [Holmes, Felter2, Fyfe2]
    - at menstrual period, with burning at top of head. [Boericke, Ellingwood]
  - Especially at vertex/occipital. [Holmes]
  - Occipital headache, with phosphatic urine. [Boericke]
  - Chronic headache [Lyle], chronic occipital headache. [Holmes]

## *Cardiovascular system and blood*

- Organic heart disease (milky oat). [Holmes]
- Cardiac weakness, cardiac insufficiency (milky oat) [Ellingwood, Felter, Holmes], cardiac hypotonia (bud extract) [Piterà].
  - Liter.: *“In enfeebled states of the heart muscle it acts as a good tonic to improve the energy of the organ.”* [Felter]
- From nervous exhaustion. [Ellingwood]
  - Liter.: *“In conjunction with cactus, or apocynum, as these remedies are indicated, it will be found of much service in the treatment of weak heart, and the resulting complications.”* [Ellingwood]
- Cardiac weakness of nervous depression. [Felter2]
- Cardiac rheumatism (seeds, milky oat, tincture). [Boericke, Holmes, Fyfe2, Scholten, Scholten2]
  - Prevents the recurrence of cardiac rheumatism [Ellingwood, Felter]:
    - Liter.: *“This influence would be facilitated by combination with specific alteratives, and remedies that will facilitate the elimination of uric acid, without depressing the action of the heart.”* [Ellingwood]
    - Liter.: *“In this condition it is not thought to be specially antirheumatic, but rather to strengthen that debility upon which the rheumatic diathesis depends, so that the patient is less subject to atmospheric and other impressions.”* [Felter]
- Palpitations (milky oat, bud extract, tincture of fresh flowering plant) [Clarke, Ellingwood, Fyfe2, Holmes, Piterà, Scholten, Scholten2, Wood]:
  - Nervous palpitations [Clarke, Ellingwood, Fyfe2, Scholten, Scholten2, Wood], tachycardia [Wood].
  - Heart feebleness with some irregularity. [Ellingwood]
- Heart blood deficiency (TCM), with insomnia, palpitations, anxiety (milky oat). [Holmes]
- Anemia (milky oat). [Holmes]
- Heart disease from hypothyroidism (bud derivatives). [Piterà]
- Reduction of cardiovascular risk (bud extract). [Piterà]
- Endocarditis. [Scholten, Scholten2]

## *Gastrointestinal system*

- Inflammations of the gastrointestinal tract (2% seed infusion, 3-6 cups a day, as an emollient and mild laxative). [Peroni]
- Intestinal infections in infants (seed decoction). [Atzei]
- Nervous dyspepsia (milky oat, bud extract) [Ellingwood, Piterà, Wood]:
  - Nervous, stressed digestion with emaciation, weakness, diarrhea (milky oat). [Wood]

- Nervous dyspepsia, atonicity of the entire gastrointestinal tract. [Ellingwood]
- Peptic ulcers (milky oat). [Holmes]
- Gastroenteritis (milky oat). [Holmes]
- Cholera (tincture of fresh flowering plant). [Clarke]
- Colic (milky oat). [Holmes]
- Constipation [Felter, Scholten, Scholten2]:
  - Liter.: *“Good in habitual constipation, but not in dyspepsia accompanied with acidity of the stomach (oatmeal).”* [Felter]
- Nausea, vomiting [Felter]:
  - Liter.: *“Oatmeal made into a cake with water, baked and browned like coffee, then pulverized and made into a coffee, or infusion, forms a drink which will allay nausea and check vomiting in a majority of cases when all other means fail, and used thus is very useful in diarrhoea, dysentery, cholera morbus, and irritable conditions of the stomach.”* [Felter]
- Decreased appetite or loss of appetite (bud extract). [Piterà]
- Gastric cancer (preventative) (bud extract).[Piterà]
- Tonic of liver, spleen and pancreas (bud extract). [Piterà]

### *Pancreas*

- Hyperglycemia (milky oat, bud extract) [Holmes, Piterà], diabetes (milky oat, supportive) [Holmes]
- Supports the endocrine functions of the pancreas (bud extract). [Piterà]

### *Urinary system*

- Difficult, obstructed urination (milky oat). [Holmes, Peroni]
  - Urine retention (5% seed decoction, in lukewarm sitzbath). [Peroni]
- Neurogenic bladder (atonic, spastic, with strangury; milky oat). [Holmes]
  - Lack of control over the urinary organs (seeds). [Fyfe]
- Spasms of the neck of the bladder (tincture of the whole plant in the milky stage). [Felter, Felter2]
- Bedwetting; with weakness (milky oat). [Wood]
- Emissions of phosphates in the urine (milky oat, tincture). [Scholten, Scholten2, Ellingwood, Boericke, Wood]
  - with exhaustion [Wood], with nervous exhaustion [Ellingwood].
- Bladder tissue hypotonia (bud extract, aerial parts infusion). [Peroni, Piterà]

- Kidney tonic (bud extract). [Piterà]

### *Sex organs*

- Sexual overstimulation (milky oat). [Holmes]
- Sexual excess (milky oat, tincture of fresh flowering plant) [Clarke, Ellingwood, Fyfe2, Holmes]
- Infertility, sterility (milky oat, seeds). [Holmes, Paoluzzi]
- Kidney Yang deficiency (TCM), with sexual disinterest, lumbar aching, dysuria, late periods, premature ejaculation, spermatorrhea (milky oat). [Holmes]
- Sexual debility. [Boericke, Piterà, Scholten, Scholten2]
  - Deficiency of female and male libido, sexual weakness (bud extract). [Piterà]
- Pelvic tissue hypotonia (bud extract). [Piterà]

### MALE

- Irregularities of the male sexual system (tincture of fresh flowering plant) [Clarke]
- *Spermatorrhea*, nocturnal emissions (seeds, milky oat, tincture). [Ellingwood, Felter, Felter2, Fyfe, Fyfe2, Holmes, Scholten, Scholten2, Wood]
  - with weakness [Felter, Wood]
  - following diseases, with/from the nervous erethism of debility. [Ellingwood, Felter, Felter2]
    - Liter.: *“In spermatorrhoea it is adapted to those cases of debility following adynamic diseases, or in simple spermatorrhoea when not due to self-abuse.”* [Felter]
    - Liter.: *“The atonic state gives rise to a nervous erethism or an enervated condition favorable to nocturnal losses.”* [Felter]
    - Liter.: *“In cases depending wholly or partially upon prostatic irritation it is of less value, but aids staphisagria, sabal, salix nigra aments, and other indicated remedies.”* [Felter]
  - when due to nervous exhaustion. [Fyfe2]
    - Liter.: *“It is a reliable remedy, prompt in action in many cases of nocturnal seminal emissions, in cases of nervous type.”* [Fyfe2]
  - after too much indulgence. [Boericke]
- Premature ejaculation (milky oat). [Holmes]
- Impotence (milky oat, seeds) [Ellingwood, Fyfe, Fyfe2, Holmes, Paoluzzi, Scholten, Scholten2, Wood]:
  - especially in men under middle age [Ellingwood, Fyfe2, Wood]:
    - from nerve exhaustion, sexual excesses. [Wood]

- in newly married men. [Ellingwood, Scholten, Scholten2]
  - Liter.: *“This writer has had better satisfaction in the use of this agent in the temporary impotence of young newly married men, than from any other single remedy or combination of remedies. If there be prostatic or other local irritation, a combination of this agent with saw palmetto will cover the field.”* [Ellingwood]
- from sexual abuses (seeds). [Boericke, Fyfe, Scholten, Scholten2]
- Tai Yin impotence. [Paoluzzi]
- Swollen prostate with neurasthenia (milky oat). [Wood]
- Any disease that *“is apparently due to nocturnal emissions, masturbation, over sexual intercourse. For these disorders it is truly specific.”* [Fyfe2]

## FEMALE

- Irregular menstruation (milky oat, bud extract) [Ellingwood, Holmes, Piterà, Scholten, Scholten2, Wood]:
  - Dysmenorrhea [Ellingwood, Scholten, Scholten2], spasmodic dysmenorrhea (milky oat) [Holmes].
  - Neuralgic and congestive dysmenorrhea, with slow and imperfect circulation and cold skin and extremities. [Ellingwood]
  - Amenorrhea [Ellingwood, Scholten, Scholten2]:
    - atonic, with great feebleness. [Ellingwood]
    - with nervous debility; mental depression, pain in the pelvis (milky oat). [Wood]
  - Amenorrhœa and dysmenorrhœa, with weak circulation. [Boericke]
  - Premenstrual syndrome (milky oat) [Holmes, Wood]:
    - with dry skin, depression, confusion, forgetfulness, sleep loss. [Holmes]
    - with delayed, scanty periods, cramps, headache, nausea. [Holmes]
    - with headache, exhaustion, panic, or nausea. [Wood]
- Nervous headache at menstruation (milky oat) [Ellingwood, Fyfe2, Holmes, Wood]:
  - especially those accompanied with burning on the top of the head. [Boericke, Ellingwood]
  - Sick headaches apparently from disordered stomach during menstruation. [Ellingwood]
- Nervous states of many female troubles. [Boericke]
- Frigidity (milky oat). [Holmes]
- Estrogen deficiency disorders (milky oat). [Holmes]
- Uterine or ovarian disorders with hysterical manifestations. [Ellingwood, Fyfe2]
- Menopause (associated symptoms, bud extract<sup>9</sup>). [Peroni]

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9 V. nota 3.



### *Musculoskeletal system and limbs*

- Fibromyalgia (milky oat). [Holmes]
- Gout (milky oat). [Holmes]
- Sciatica (milky oat). [Holmes]
- Rheumatism (milky oat). [Holmes]
- Osteoporosis (milky oat). [Holmes, Paoluzzi]
- Muscular feebleness (milky oat) [Ellingwood, Holmes]:
  - from lack of nerve force. [Ellingwood]
- Local paralysis (milky oat). [Holmes]
- Sore back (milky oat) [Holmes], lumbago (external use, seeds). [Atzei]
- Weak knees (milky oat). [Holmes]
- Chronic joint subluxations (milky oat). [Holmes]
- Tensive articular swellings. [Felter]
- Numbness of limbs (milky oat, tincture) [Boericke, Scholten, Scholten2, Wood]:
  - as if paralyzed. [Boericke, Scholten, Scholten2]
- Extremities weak; lack of strength (milky oat, tincture) [Boericke, Wood]:
  - Strength of hand diminished. [Boericke, Scholten, Scholten2]
- Nervous tremors, spasm, epilepsy (milky oat). [Wood]
- Arthritis. [Scholten, Scholten2]

### *Skin, tissues, nails and hair*

- Skin inflammations, rashes, dermatoses, epithelial dyscrasias (internal use: milky oat, bud extract; external use: seed decoction, seed coat decoction, straw decoction, diluted tincture, for compresses or as a wash; poultice of flour mixed with hot water) [Atzei, Holmes, Peroni, Piterà]:
  - Eczema (also chronic), dermatitis, seborrheic dermatitis. [Holmes, Peroni, Piterà]
  - Shingles, herpes, late-stage skin eruptions. [Holmes]
  - Inflammatory and seborrheic skin conditions, especially if itchy. [Peroni]
  - Sudamine (sweat dermatitis). [Atzei]
  - Itchy neurodermatitis (bud extract). [Piterà]
  - Exanthema. [Scholten, Scholten2]
- Itch [Culpeper, Piterà, Scholten, Scholten2]:
  - Pruritus sine materia (bud extract). [Piterà]
- Weak, broken hair, nails, skin (milky oat; cf. *Equisetum*, homeopathic *Silicea*). [Wood]

- Hypotonia of connective tissue and skin (bud extract, aerial parts) [Peroni, Piterà]:
  - 2-3%, aerial parts infusion, 3-5 glasses per day) [Peroni].
- Stings (external use, seeds). [Atzei]
- Abscesses (poultice of flour mixed with hot water, as a resolvent and emollient; external use). [Peroni]
- Mycosis (tincture 20-30% solution in sterile water or physiological solution, for washes or external applications). [Peroni]
- Fistule. [Culpeper, Scholten, Scholten2]
- Leprosy [Culpeper, Scholten, Scholten2]

### *Sleep*

- *Insomnia*, sleep disorder (milky oat, bud extract, tincture of fresh flowering plant) [Clarke, Ellingwood, Fyfe, Fyfe2, Holmes, Lyle, Peroni, Piterà, Scholten, Scholten2, Wood]:
  - associated with nervous exhaustion, despondency, mental irritability. [Wood]
  - also in infants. [Peroni]
  - with irritability (seeds). [Fyfe]
  - especially of alcoholics. [Boericke]
  - Insomnia of nervousness – the overworked. [Fyfe2]
    - Liter.: *“It is harmless and efficient, and far better than opiates in these conditions.”* [Fyfe2]
  - 3 am insomnia (Tai Yin). [Paoluzzi]

### *Other*

- Weaning from breast milk (seed meal dissolved in cow’s milk). [Peroni]
- Gout (6-8% straw decoction, boil for at least thirty minutes, 100 g of the drug for each bath). [Peroni]

## **Parts used and their collection**

Nearly the whole oat plant can be used medicinally. The seeds can be collected at maturity or at the milky stage, and tinctured or dried for later use. Also the flour obtained from mature seeds can be employed in therapy.

The straw can be collected when the seeds are either ripe or at the milky stage. It is usually dried.

The whole aerial parts (seeds and stalk together) are collected at the milky stage and tinctured (this is the original Eclectic remedy).

The flowering aerial parts (stalk and flowers) are collected in full bloom and are generally used to make a tincture.

Seed sprouts with rootlets and young shoots germinated in the spring are used for the preparation of the bud extract. [Peroni, Piterà]

## Preparation and dosage

Mature oat seeds can be used as they are, or as rolled oats or flour to make a gruel or porridge. They can be also decocted in order to obtain a nutritious and demulcent liquid which can be either used internally or externally.

Milky oats (either collected with or without the stalk) can be used to make a decoction or a tincture. In the former case, they are first dried; in the latter case, milky oats are tinctured fresh with high proof (usually 75%-95%) alcohol using a 1:2 ratio (e.g., 50g oats and 100 ml alcohol). In order to allow the solvent to extract the milky substance, the oat seeds need to be broken open: this can be easily done with the help of a blender (there is no need to thoroughly mash the herb; just turn the blender on for 20-30 seconds, until the seeds break and the liquid turns a bright green color). After macerating the drug for the desired length of time (usually 3-6 weeks), oats are strained through a piece of cloth (eg., two layers of cheesecloth) and pressed. After some time, a milky sediment deposits on the bottom of the recipient. This sediment is not to be discarded, since it is an important component of the extract; rather, the recipient should be shaken each time before use in order to re-mix the sediment with the solution. Notice that using filter paper instead of cloth the milky substance is filtered out.

Several authors suggest to take 10-15 drops of milky oat tincture, two to four times daily, in hot water, since in hot water its action is quicker. It is always best to give it well diluted. [Wood]

According to Finley Ellingwood, milky oat tincture *“may be given in doses of from five to sixty drops in rare instances. It should, however, never be given in larger quantities than twenty minims<sup>10</sup> unless the patient is thoroughly accustomed to the remedy, and has found the usual dose insufficient. Otherwise there is danger of obtaining the physiological effect of the drug, which is announced by pain at the base of the brain. When this symptom makes its appearance the medicine should be discontinued for a day or two, and then given in reduced doses.*

*If administered in hot water during the day, its action is much quicker, and in cold water at night on retiring it has a more extended influence. When given in hot water, its action at times, is almost instantaneous.”* [Ellingwood]

The oat straw is less effective but still very high in minerals, among other constituents [Holmes]. The oat straw decoction can be drunk or used for baths, sitzbaths, footbaths, washes or compresses.

Milky oat or oat straw should be taken long-term for chronic conditions involving nervous, endocrine, immune, musculoskeletal, cardiac or epidermal actions. [Holmes]

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<sup>10</sup> The *minim* (abbreviated min, ℥ or ℥℥) is a unit of volume in both the imperial and U.S. customary systems of measurement, and corresponds to  $\frac{1}{60}$  of a fluid drachm or  $\frac{1}{480}$  of a fluid ounce. It also corresponds to abt. 59 microliters (imperial minim) or 61 microliters (US customary minim).

50 drops of the diluted (1D) bud extract are administered in water twice a day, or 50-70 drops in a single daily administration if it is associated with other bud extracts. In children and adolescents, the dosage of the bud extract must be adapted to age and weight. If the concentrated bud extract (undiluted mother macerate) is used, the dosage must be reduced to one tenth. [Piterà]

### **Contraindications and collateral effects**

Oat is considered non-toxic. No drug interactions or adverse effects are known for oat-based preparations. The only contraindications to the use of kernels are grass allergies and hypersensitivity to gluten (celiac disease). Furthermore, oat preparations are to be used under strict medical supervision in the case of Graves' disease and severe thyroid disease. [Peroni, Piterà]

Oats are too damp and sweet for some constitutions. Eating too much can cause diarrhea and a weak GI tract. They may be fattening to the *kapha* constitution. [Wood]

### **Gemmotherapy**

**Parts used:** *Young seedlings with young shoots, shoots and rootlets (shoots from germinated seeds with rootlets)*. [Piterà]

**Balsamic time:** early spring. [Piterà]

**Preparation:** the young shoots, the young seedlings with rootlets and the germinated seeds with rootlets are harvested in spring and after being carefully bruised and chopped, they are prepared using the classic maceration method in a glycerin-alcohol solution (then possibly diluted 1:10 with hydro-glycero-alcoholic solution to obtain the 1D dilution); or they can be directly macerated in a hydro-glycero-alcoholic solution of an appropriate degree, to obtain the bud extract. [Piterà]

The indications for this remedy are given below and are taken from [Piterà].

#### ***Main features***

**Sugar metabolism:** the administration of the bud extract for 6-8 weeks has a mild antidiabetic effect as it reduces pre-prandial glycemia, 24-hour glycemia and insulin levels in patients with type II diabetes.

**Lipid and lipoprotein metabolism:** increases the synthesis of bile acids synthesized from cholesterol, thus promoting the use and reduction of cholesterol itself. Mildly reduces total cholesterol and LDL cholesterol. The action would appear to be due to various mechanisms performed by  $\beta$ -glucan: 1) inhibition of the formation of micelles necessary for the absorption of cholesterol; 2) reduction of bile acids in the enterohepatic circulation with increased conversion of cholesterol into bile acids; 3) fermentation of  $\beta$ -glucan into short-chain fatty acids, such as acetate, butyrate and propionate which, when absorbed, inhibits cholesterol synthesis; 4) inhibition of hydroxy-methyl-glutaryl-CoA-reductase.

**Organotropism:** Central Nervous System and Endocrine-Metabolic System.

### ***Main properties and essential clinical indications***

Due to its multifactorial effects on the central nervous system and its polyendocrine and metabolic actions, the bud extract of *A. sativa* is suitable to multiple therapeutic uses. Its main properties are adaptogenic, anxiolytic, antidepressant, antidermatotic, epithelial antidyscrasic, anti-inflammatory, antipruritic, antiseborrheic, dechlorinating, diuretic, emollient, hypoglycemic, hypocholesterolemic, uricosuric, general tonic, remineralizing, sedative, general stimulant, appetite stimulant, tissue and connective tonic, vitaminizing and vulnerary. Oat also acts favorably on the physiological thyroid functions and have a dual action, both relaxing and toning, which varies according to the overall situation encountered in the individual (regulating and balancing action on both *yin* and *yang* imbalances). This plant has a complex amphoteric euthymic, anxiolytic and relaxing action with anxiolytic action similar to that of passion flower; its euthymic action is related to the activity of triterpene saponins and indole alkaloids (avenine and trigonelline). The anxiolytic and sedative properties of the plant produce mood improvement with an increase of libido, a greater resistance to both physical and mental fatigue and an improvement in states of anhedonia. It therefore has a rebalancing action on the central nervous system and is an excellent tonic action in psychophysical prostrations, in weakness and in convalescence from exhausting illnesses. Although used as a tonic and general invigorator in neuroasthenic syndromes, oat also has neurosedative properties useful in case of anxiety, nervousness, nervous tension and nervous agitation.

### **Homeopathy**

There are no known homeopathic oat provings. Some homeopathic authors use the tincture of flowering plants in material doses (v. [Boericke, Clarke]).

Jan Scholten reports the information below, most of which coming from the older literature [Scholten, Scholten2].

#### **Essence**

This personality feels at one hand abused and at the other hand overwhelmed by the abuse so that he cannot fight against it. His strategy is to behave as if they are indifferent to what happens. They retire behind a wall so that their oppressor cannot get a grip on them anymore. This can happen with relatives, like a domineering, dictatorial and abusive parent or in relationships with friends and especially their spouse.

#### **Mind**

Hesitating in sexual affairs from a fear of sexual transmitted diseases.

Nervous exhaustion, sexual debility.

A morphine habit calls for this remedy in rather material dosage.

Alcoholism.

Inability to keep their mind on any one subject.

Mental or physical overwork.

Melancholia, peevishness, vagaries of thought.

Worries, cares.

Masturbation.

Sexual excesses.

Hysterical.

### **General**

Localisation: jenn mo 12; tou mo 11 [acupuncture points: CV12; GV 11].

Time: < June.

Aversion: food, loss of appetite.

Food: << alcohol; <, morphine.

Sleep: sleepless, < alcoholics, < worry, mental exertion, < masturbation, < sexual indulgence.

### **Body**

Energy: exhaustion; debility after exhausting diseases.

Nervous: tremors of the aged; chorea; Parkinson's disease, paralysis agitans, epilepsy; paralysis after diphtheria; neurasthenia, brain fag, nervous debility.

Head: headache, nervous, burning, vertex, base of brain, < menses; occipital headache.

Nose: coryza, colds.

Lungs: tuberculosis.

Heart: rheumatism; weak circulation; palpitation, nervous; pulse irregular, < digestion, < convalescence, < nervous debility, < exhaustion; endocarditis.

Abdomen: flatulence.

Rectum: constipation.

Urinary: phosphate increased.

Male: spermatorrhoea; impotency, < masturbation, < too much indulgence, < newly married men.

Female: amenorrhoea, dysmenorrhoea.

Limbs: numb; as if paralysed; weak hand; arthritis.

Skin: exanthema; leprosy, itch, fistule.

## NOTES

### Notes on humors

According to the Hippocratic-Galenic medicine, four humors rule the human body:

- *Bile* (or *Yellow Bile*), corresponding to the Fire element, responsible for all the caloric activities of the human body, both in a physiological sense (e.g., body heat) and in a pathological sense (fever, inflammation, etc.);
- *Blood*, corresponding to the Air element and to the physical blood;
- *Phlegm* (also called *Pituita* or *Lymph*), corresponding to the Water element, responsible for everything that is fluid in the body (body fluids, lymph, blood plasma, synovial fluid, cerebrospinal fluid, etc.)<sup>11</sup>;
- *Melancholia* (also called *Black Bile*), corresponding to the Earth element, responsible for everything that is hard and structured (bones, teeth, but also growths, polyps, stones, tumors, etc.).

Heat and body fluids are governed by Yellow Bile and Phlegm respectively. When there are no further specifications, the terms “heat” and “fluids” can be used, in this text, to indicate the corresponding humor.

The functioning of the whole body is governed by the mixing (*crasia*) of such humors: if the ratio between the humors is proper (we speak of *eucrasia*), the body functions at its best and the health is guaranteed; if they are blended improperly (we speak of *discrasia*), illness results.

A humor is defined *correct* when both its “quantity” and its “quality” are proper; when it prevails over the others, generating dyscrasia, it is said that it is *superabundant*, and when its quality is not appropriate it is said that it is *corrupt*. We say in general that a humor is *perverse* when it is overabundant or corrupt. In this text, in order to facilitate comparisons between different systems of medicine, we resort to an extension with respect to the classical conception and define a humor as “perverse”:

- when its “quantity” is not optimal, that is, it is excessive (superabundant humor) or deficient (deficient humor) with respect to the condition of eucrasia (the classical theory allows only excess; deficiency is due to the prevalence of another humor with opposite qualities), or
- when its “quality” is different from the physiologically appropriate one (corrupt humor)<sup>12</sup>.

An excess of heat in the body can overheat and “cook” the humors, altering their characteristics. Phlegm thickens and becomes more viscous, giving rise to the so-called *thickened Phlegm*. If the excess heat is important or lasts for a long time, all humors can end up “burning” (in

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<sup>11</sup> In this sense, it is conceptually different from the *Phlegm* of Chinese medicine, which corresponds specifically to the *thickened Phlegm* of humoral medicine when it is located in the upper part of the organism.

<sup>12</sup> Melancholia, for example, can be in excess with respect to the physiological condition of eucrasia (generating excessive structures) or in deficit (generating deficient constructions), but it can also be generated by the combustion of humors by heat (see below); in the latter case, it is always perverse (therefore it is perverse in quality rather than in quantity). In classical humoral medicine these three conditions are usually not so sharply distinguished from each other.

this case we call them *adust humors*). When burned, humors always produce Melancholia. Unani-Tibb medicine provides four types of perverse melancholia produced by the combustion of humors: *malankholia damvi*, produced by the combustion of Blood; *malankholia safravi*, produced by the combustion of Yellow Bile; *malankholia balghami*, produced by the combustion of Phlegm (generally due to fermentation) and *malankholia saudawi*, produced by the combustion of “correct” Melancholia.

Phlegm is cold in the first degree and damp in the second and is a mobile and flowing humor. When coldness becomes excessive, however, the Phlegm can thicken and become viscous (cold indeed makes viscous), producing once again *thickened Phlegm*.

Phlegm itself, when it accumulates and stagnates for any reason (for example due to a lack of heat or an excess of Tension, see below), generates, by “compression”, secondary heat that can condense the humor and make it viscous.

Furthermore, in nature stagnant dampness favors fermentation and putrefactive processes, especially when there is concomitant heat. Also in the human body an accumulation or stagnation of Phlegm may cause the onset of fermentation or putrefaction (phenomena that today’s medicine generically indicates as *infections*), which are certainly supported by the natural heat of the body and by any secondary heat generated by compression of the Phlegm. Moreover, the fermentation and putrefaction generate further secondary heat<sup>13</sup>. All these phenomena are characterized by the coexistence of perverse dampness and heat, even if, to be more precise, they should be described as due to the presence of pathological dampness associated with a certain degree of perverse heat (it is therefore more correct to think of them as due to “heated” humidity rather than moist heat). From a clinical point of view, the disorders characterized by this humoral picture include the phenomena known as *putrefaction*<sup>14</sup> which are manifested by the emission or collection of purulent material, often even hardened (e.g., abscesses)<sup>15</sup>.

The conditions described so far (thickened phlegm, adust humors, putrefaction) are perverse not due to an incorrect quantity of the humors, but because of their “bad” quality.

### ***Tension***

In this text, for the exclusive purpose of simplifying any comparisons between different systems of medicine (for example, Chinese and humoral), we add the pseudo-humor *Tension*<sup>16</sup>, which is responsible for the “functionality” of the whole body or its parts (e.g., the organs). In this sense, it corresponds to the *Qi* of Chinese medicine but also to other concepts, such as that of the *Four Virtues* (attractive, retentive, alterative and expulsive) of organs according to Galen (see for example [Giannelli]) and it can also be related to the *vasoconstriction* and *vasorelaxation* conditions of Physiomedicalism and to Matthew Wood’s *Constriction* and *Relaxation* tissue states [Wood].

Tension, defined as a *pseudo*-humor because it is not contemplated by the classical humoral theory, can be thought of as formally derived from Fire to which a sort of “constraint”,

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13 The fermentation and putrefaction processes are generally exothermic or generate a “hot” response from the human body..

14 Corresponding to the *toxic heat* of Chinese medicine. This condition also includes diseases characterized by macular or maculopapular eruptions (e.g., exanthematous diseases).

15 The conditions known as *Dampness/Heat* in Chinese medicine (which include, for example, problems often related to the urinary tract or gallbladder, some cases of jaundice, etc.) also fall within this picture.

16 Name borrowed from Matthew Wood’s tissue states model [Wood].



“limitation”, or “obstacle” has been applied. Like Fire, in fact, it is a form of “energy”, mobile in itself and activating; but whereas Fire tends to move only upwards and centrifugally, thus expanding indefinitely, the movement of Tension is more “structured” and so to speak “oriented” towards specific, defined forms and modalities. We can therefore see it as a kind of Fire to which a structuration (element of “terrestrial” nature) has been applied.

We can resort to an image taken from everyday life as an example. If we pour water on the fire, the latter goes out and the water disperses or evaporates. If we place a hard (i.e., cold and dry) element above the fire (for example, a terracotta or metal container) which prevents the water to directly “mix” with the fire, we are able to let the water heat up without dispersing, and to use it warm for specific purposes (for example, to cook food). By applying a cold and dry “obstacle” (the container) to the fire, we “functionalize” the heat that otherwise would disperse or make the water disperse or evaporate.

Tension can therefore be described, in a humoral sense, as derived from a sort of “functionalization” of Fire by a factor (a principle rather than a material cause) of a cold and dry nature. For this reason Tension is hot and dry, with a lower degree of heat than Fire (because of the cooling due to functionalization).

Even Tension can be correct or perverse and, in the latter case, it can be perverse both in quantity (excess or deficit of Tension) and in quality (think for example of the *Qi ni*, or *counterflow Qi*, of Chinese medicine). Given the correspondence, described above, of Tension with Qi, the various manifestations of perverse Tension will typically have a more or less specific correspondence in Chinese medicine (for example, “Tension deficiency” corresponds to “Qi deficiency”). In general, Tension imbalances correspond to Qi imbalances and/or to “Wind” (intended as a pathogenic manifestation).

An imbalance in Tension can also affect other humors, potentially making them perverse. For example, an excess or a stasis (stagnation) of Tension can prevent the body fluids from being moved correctly, generating stagnation of Phlegm and/or Blood; Tension stagnation can generate “compression” which in turn can produce heat (Chinese medicine speaks, for example, of “implosion of stagnant Qi” which generates Fire, understood here not as the element but as a specific manifestation of heat).

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