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- All life processes require energy
- The idea that health and healing is connected to some type of energetic process has a long history in many cultures
- Eastern traditions posited the idea of a vital energy called qi [Chinese] or prana [Ayurvedic]
- Traditional Western medicine spoke of a vital force and belief that the vital force creates life and healing is called vitalism
- Many traditions also call this nonmaterial force—spirit
- Modern medicine tends to ignore these ideas, claiming "there is no ghost in the machine"

Bioelectrical Energy

- Even if we reject the idea of a soul or spirit in the body, looking at live as an energetic process is still valid
- Since all "work" requires energy, healing cannot take place if there is not enough energy to do the "work" of healing
- So, let's briefly examine some concepts about energy











EZ Zones and Structured Water

- When water comes in contact with a membrane (like those found in cells) it forms exclusion zones (EZ) next to the membrane
- Any impurities in the water are excluded from the EZ zone
- Water in the EZ zone is structured water (H3O2)
- EZ zones are recharged by radiant energy (infrared) or heat and light





EZ Zone Batteries

- Water in the EZ zone is alkaline because extra hydrogen atoms (with extra electrons) are drawn into the EZ Zone
- This makes water outside the EZ zone more acid
- This forms a natural battery because a current will flow between the zones if electrodes are placed into the two zones

EZ Zones Create Mechanical Energy

- If a membrane-lined tube is inserted into a tank of water, as the EZ zones form along the sides of the tube water begins to flow from one end of the tube to the other
- This mechanism may help explain how trees move water hundreds of feet into the air
- It may also help to explain why blood starts flowing in the fetus before the heart starts beating







Energy Levels Affect Health

- Health can partially be expressed as a measure of how much electrical potential is storied within the tissues
- The storage of energy potential is roughly reflected in the pH of tissues
- If your body "batteries" have a high energy charge you feel alert, refreshed, revitalized, alive, and healthy
- As levels of stored energy diminish, health diminishes and you feel tired, weak, and sick
- In order to create healing, there needs to be a higher-than-normal level of energy available

Cell pH	Voltage	Tissue Condition
7.88	-50 mV	Acute Inflammation
7.61	-35 mV	Normal for kids
7.53	-30 mV	
7.44	-25 mV	Normal for adults
7.35	-20 mV	Subacute
7.26	-15 mV	Tired
7.18	-10 mV	Sick
7.09	-5 mV	Chronic
7.00	0 mV	Polarity Shift
6.83	+20 mV	Degenerative
6.48	+30 mV	Cancer occurs
L	Table above a	dapted from



Beyond Plant Chemistry



Fresh versus Devitalized

- The minute we harvest a plant it begins to die
- Antioxidant levels (representing the ability to donate electrons for energy) begin to drop
- The more we process the food, the more we denature or devitalize it
- This suggests that the more processed something is, the less vital energy it has to contribute to our health







Water (Yin) and Fire (Yang)

Water or Yin

- Receives and expands
- Aids assimilation
- Aids creation and storage of energy
- Associated with nighttime and winter
- Promotes rest and relaxation
- Aids playfulness, peacefulness and openness
- Promotes softness, gentleness and sensitivity

Fire or Yang

- Contracts and discharges
- Aids elimination
- Aids breakdown and discharge of energy
- Associated with daytime and summer
- Promotes activity and alertness
- Aids work, direction and assertiveness
- Promotes hardness, firmness and self-containment



Understanding the Fire Element

- Fire breaks material down into smaller components, releasing energy (heat and light) in the process
- Fire is connected to oxidative processes, substances that borrow or "steal" electrons from other substances
- Fire energy reflects catabolic (breaking down) processes and the discharge of energy
- Energy creates movement, so all activity is related to the idea of fire



Discharge is Not Recharge



- It is important to recognize that energy discharge is NOT the same as energy storage
- During yang or fire phases (daytime and summer), energy is being discharged, not recharged
- For example, when you're using your cell phone the battery is discharging
- To have more energy available for your phone to use you have to recharge the battery

Fire Herbs Pungent • Would have to stimulate or move energy Would move outward rapidly Aromatic • Would increase activity in the body • Primary Herbal Category: Aromatic ollog 11120 Dry Atant Bitters Secondary Herbal Categories Pungent • Fragrant Bitter 23

Properties of Volatile (Essential) Oils

- Evaporate in the presence heat
- Dissipate rapidly into the air
- Are responsible for the fragrance (and much of the taste) of flowers, herbs, and foods
- Don't mix with water
- Stimulate tissues to increase activity



Aromatic Herbs

- Characteristics
 - Strong aroma, many are used as seasonings for adding flavor to food
- Constituents
 - Essential or volatile oils
- Energetics: Warming and drying
- Opposite Category: Mucilant
- Major Healing Properties: Carminative, expectorant, decongestant, nervine, sudorific or diaphoretic, digestive stimulant







Pungent Herbs

- Characteristics
 - Spicy or hot taste, biting aroma
 - Also used as seasonings for food
- Constituents
 - Resins
 - Allyl-sulphides
 - Alkamindes
 - Some essential oils (monoterpenes)
- Energetics: Warming and drying
- Opposite Category: Oily
- Healing Properties: Circulatory stimulant, digestive stimulant, expectorant, decongestant, sudorific and diaphoretic, antiseptic, disinfectant



Fragrant Bitters

- Characteristics
 - Bitter taste; bitter aroma (often not pleasant)
- Constituents
 - Sesquiterpene lactones and triterpenes
- Energetics: Slightly warming and drying
- Opposite Category: Sweet
- Healing Properties: Digestive stimulants, antimicrobial, antiparasitic, detoxifying, may be calming, some are toxic





Fire Herb Summary

- Pungent herbs are more heating with rapid but quickly dissipating effects
- Aromatics are more sustained in their warming effects and often have nervous system properties as well
- Fragrant bitters are less heating and more drying and detoxifying



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Water conquers by yielding; it never attacks, and always wins the last battle.

The sage who makes himself as water is distinguished for his humility; he embraces passivity; acts from non-action and conquers the world.

— Lao Tzu

Water is Unique

- Water exists in solid, liquid and gas form at normal earth temperatures
- Most solids get denser and therefore sink in liquids, water is less dense in its solid state so it floats
- Water's boiling point is unusually high so it can store heat
- Water has two poles, positive and negative, so it can dissolve a wide variety chemical substances
- Water is essential to all life
- Our planet surface and our bodies are mostly water



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Mucilant Herbs

- Characteristics
 - Absorb water and swell
 - Soothe, moisten, and cool tissues
 - Have nourishing qualities
- Constituents
 - Contain mucopolysaccharides (mucilage and gums)
- Energetics: Cooling and moistening
- Opposite category: Aromatic
- Properties: Demulcent, emollient, bulk laxative, soothing, moistening, cooling, absorbent



Examples of Mucilant Herbs

- Aloe Vera
- Chia Seeds
- Comfrey
- Irish Moss
- Kelp
- Marshmallow
- Okra
- Psyllium
- Slippery Elm





Oily Herbs



• Characteristics

- Soothe, moisten, and cool tissues
- Have nourishing qualities
- Constituents
 - Contain vegetable oils (triglycerides)
- Energetics: Moistening, cooling and nourishing
- Opposite Category: Pungent
- Healing Properties: Emollient, lubricating, soothing, moistening, cooling, nourishing

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Coconut **Examples of Oily Herbs** Black current Flaxseed seed • Hemp seeds • Borage seeds Olives Flaxseed • Chia seeds • Pumpkin Coconut seeds • Sunflower • Evening seeds primrose seed

Sweet Herbs

- Characteristics
 - Bitter-sweet flavor
 - Traditionally used as tonics
- Constituents
 - Polysaccharides, saponins, and others
- Energetics: Moistening, neutral, and nourishing
- Opposite Category: Fragrant Bitter
- Healing Properties: Tonic, nourishing, softening, building, restorative, adaptagenic







Air (Change) and Earth (Stability)

Air (Yin to Yang Shift)

- Shift from absorption to discharge of energy
- Associated with morning and springtime
- Helps to clear congestion, stagnation, stuffiness
- Initiates release and detoxification
- Promotes feelings of release, openness and freedom
- Associated with new beginnings, release and forgiveness

Earth (Yang to Yin Shift)

- Shift from discharge to absorption of energy
- Associated with evening and autumn or fall
- Helps to clear emptiness, weakness and malnourishment
- Initiates absorption and assimilation
- Promotes feelings of desire, connection and connection
- Associated with contemplation, satisfaction and receiving





I yearned for a plane that would travel at just the right speed to keep that sunset before me for at least one full, twenty-fourhour span. I was viewing with new eyes the breathtaking wonder of the sunset eternal—the sunset that is always and forever and forever—the eternal sunset shaking out its blazing blankets to bed down the earth where the day goes tip-toeing out.



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It was the never-ending sunset that I was really seeing for the first time, not just the minute portion of it before me, holding its place for a fleeting moment. I was viewing in my mind that never-ending sunset that goes on and on, winging its way in its eternal rounds as it keeps stride with the sun, circling around the earth forever and forever, without stopping, without ending.



They each exist completely and fully at all times, together, yet individually apart.

The dawn and the sunset are but the soft kisses, or the delicate handclasp between night and day—their meeting place of lingering caress.





It may not be new days, as we have thought, blossoming forth with each new dawn, but the same eternal day over and over again, returned to give us one more chance to try again—and yet again.



Air

- Would have to help transition from a state of fullness to the process of discharge
- Would have opening, awakening, motivating, and energizing properties
- Primary Herbal Category
 - Acrid, includes Diffusive
- Secondary Herbal Categories
 - Salty
 - Bitter Stimulants



Acrid Herbs

- Characteristics
 Bitter, nasty, taste that may have a sour, burning quality
- Constituents • Resins and Alkaloids
- Energetics: Relaxing, Warming, and Neutral
- Opposite Category: Astringent
- Healing Properties: Antispasmodic, diffusive, decongestant, emetic, diaphoretic





Salty Herbs

- Characteristics
 - Slightly salty, grassy or "green" taste (think of celery or spinach)
- Constituents
 - Salts of magnesium, potassium, sodium and calcium
- Energetics: Nourishing, balancing, neutral
- Opposite Category: Simple Bitters
- Healing Properties: Lymphatic, alterative, diuretic, moistening, decongestant, vulnerary, mineralizing, alkalizing





Bitter Stimulants

- Characteristics
 - Bitter tasting herbs that act as stimulants
- Constituents
 - Alkaloids such as caffeine, berberine, and nicotine
- Energetics: Slightly warming, drying
- Opposite Category: Sour
- Healing Properties: Metabolic stimulant, vasoconstrictive, detoxifying, diuretic, digestive stimulant, antimicrobial (berberine)







Earth

- Transition from a state of discharge to a state of rest and expansion
- Make tissues tighter, firmer, more dense
- Primary Herbal Category
 - Astringent
- Secondary Herbal Categories
 - Simple Bitters
 - Sour



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Astringent Herbs

- Characteristics
 - Slightly bitter, with drying, slightly puckering sensation
- Constituents:
 - Tannins, tannic and gallic acid
- Energetics: Constricting, drying, cooling
- Opposite Category: Acrid
- Healing Properties: Styptic, vulnerary, antivenomous, toning, arresting discharge



Examples of Astringent Herbs

- Bayberry rootbark
- Blackberry root. leaves
- Cinnamon
- Green or Black Tea
- Oak bark, leaves
- Raspberry leaves
- Uva ursi
- Wild geranium
- Willow bark
- Witch hazel
- Yarrow

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Simple Bitters

- Characteristics
 - Bitter taste, but not metabolic stimulants
- Constituents
 - Diterpenes
 - Glycosides
 - Athraquinone glycosides
- Energetics: Cooling and drying
- Opposite Category: Salty
- Healing Properties: Digestive stimulant, hepatic, cholagogue, detoxifying, alterative, cooling, laxative, possibly relaxing



Examples of Bitter Herbs

- Simple Bitters
 - Alfalfa
 - Artichoke leaf
 - Blessed Thistle
 - Dandelion leaf and root
 - Gentian
 - Milk Thistle
- Relaxing Bitters
 - Hops
 - Valerian
 - Wild Lettuce
- Laxative Bitters
 - Buckthorn
 - Cascara sagrada
 - Senna

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• Turkey rhubarb



Sour Herbs

- Characteristics
 - Sour taste
- Constituents
 - Fruit acids (citric, malic and Vitamin C ascorbic acid)
 - Flavonoids and antioxidants
- Energetics: Cooling, balancing, nourishing
- Opposite Category: Bitter Stimulants
- Healing Properties: Antioxidant, antiinflammatory, cooling, hepatic, tonic



Sour Herbs

- Bilberry, Blueberry
- Cranberry
- Hawthorn
- Lemon
- Lycium, Gogi, Wolfberry
- Mangosteen
- Noni
- Raspberries
- Rosehips
- Schizandra














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Minty

- Mint like smell (members of the mint family)
- Opposite balsamic
- Examples:
 - Pennyroyal
 - Peppermint
 - Spearmint
 - Wintergreen
 - Pennyroyal



















Invigorating

- Time of day: Daytime (noon)
- Time of year: Summer (summer solstice)
- Qualities: Enthusiastic, determined, outgoing, active, busy, driven, focused.
- Counters: Lack of direction, being wishy-washy, overly pleasing or yielding to others, discouraged, low energy and motivation.

- Pungent, hot spicy aroma
- Opposite fruity
- Examples:
 - Black Pepper
 - Cinnamon
 - Clove
 - Ginger
 - Nutmeg
 - Tea Tree
 - Thyme

























Earthy

- Rich, deep dirt-like aroma
- Opposite camphoric
- Examples:
 - Amber
 - Anise
 - Chocolate
 - Coconut
 - Coffee
 - Fennel
 - Juniper
 - Turmeric



Sweet

- Pleasant, sugary aroma
- Opposite sulfuric
- Examples
 - Anise
 - Chamomile
 - Coconut
 - Fennel
 - Honeysuckle
 - Orange
 - Vanilla











Floral

- Light, flowery smell
- Opposite sharp
- Examples:
 - Gardenia
 - Jasmine
 - Lavender
 - Lilac
 - Lily of the Valley, Neroli
 - Rose
 - Ylang Ylang

