

CLINICAL AROMATHERAPY

Essays and Essential Oil Profiles

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The Treatment of Depression in Clinical Aromatherapy

Depression: Disease or Symptom ?

Depression is a symptom more than a disease, and is increasingly common along with the rise of stress and subsequent endocrine and metabolic disturbances seen in human physiopathology. Almost everyone in today's urban society complains of suffering from mild depression from time to time as a functional disorder—witness the stellar rise in prescription drugs such as Zoloft and Prozac, and now their “green” counterparts, St. John's wort and Kava. This highlights the importance of approaching the evaluation and treatment of depression as a symptom rather than a Western medical disease.

Likewise, depression is found as a symptom among many in numerous actual Western diseases and syndromes, including malabsorption syndrome, liver disease, allergies, food allergies, intestinal dysbiosis, heavy metal and chemical toxicosis, chronic fatigue syndrome (CFS), fibromyalgia (FMS), hyperactivity (ADHD), viral infections, functional hypothyroidism, adrenal collapse, hypoglycemia and various nutritional deficiencies. These conditions can be compounded by various psychological and social factors, which in themselves are also potent predisposers and triggers to depression.

It is only by accepting depression as the symptom rather than as a disease, that the holistic practitioner can make a radical assessment of the particular condition presenting, and then work out an appropriate systemic treatment strategy. Another way of saying that is that depression is manifested by an individual, not by a disease. People have depression, not diseases. This is why ultimately every case of depression is unique, and requires the individually-tailored approach of holistic medicine, regardless of the particular modality employed. Making a differential diagno-

sis of the symptom, depression, is the specific and key method for achieving definition of the whole condition rather than acquiescing in mere symptom relief. For this, the particular quality as well as intensity of the depression needs to be evaluated and seen as a beacon to clarify the larger contextual imbalance or disorder presenting. This underlying imbalance is usually just functional and preclinical by nature, and doesn't usually involve organic disease. Through close questioning of signs and symptoms it requires assessment as such.

Pathogenesis and Treatment Options

The current orthodox medical approach to depression is severely reductionistic, often reducing as it does this condition to an imbalance of brain chemistry. While this may be an accurate description of the physiological dynamics involved in some types of depression, it is insufficient in explaining the many kinds of depression actually encountered in clinical practice, not to say inadequate in setting up treatment plans to manage these. Nor do alterations in brain chemistry explain the various syndromes, or typical symptom patterns, seen associated with depression. This is because the origins of depression must be sought in various other factors, nutritional, psychological, social and environmental. It is these that must ultimately be addressed to achieve a cure.

If we seek a permanent cure for depression, treatment usually entails a multifaceted approach—although there will always be exceptions to this rule. The nutritional, psychological, social and environmental factors must be evaluated as potential causes and addressed in whatever way is appropriate. Treatment strategies then may include dietary management, nutritional supplementation, herbal medication, counseling and

psychotherapy (including hypnosis) in addition to aromatherapy. It's not that aromatherapy would be ineffective on its own or that good short-term results may not be achieved with it—especially for relief of symptoms. Depression is simply a condition where one treatment modality on its own is often inadequate for comprehensive treatment and long-term cure. It's a perfect example of a condition where we need to explore the body/mind interface in the individual in order to really understand its primary origins. We should certainly be cautious never to fall into the trap of labeling all cases of depression as primarily psychological in nature, as much as primarily physiological in nature.

Aromatherapy as Treatment Modality

Clinical aromatherapy is in an excellent position to address depression because of the olfactory absorption pathway of essential oils. Based on the known neuroendocrine dynamics of essential oils, aromatherapy can help alter and regulate the neurological and hormonal functions of several cerebral centers. By stimulation of usually several of these endocrine pivots, an essential oil will promote the production and release of specific neurotransmitters and/or hormones that will counteract the loss of neuroendocrine homeostasis that is so often involved in depression.

Still, aromatherapy treatment will only act systemically and deeply in treating depression when the originating factors are mainly psychological by nature, and when other signs and symptoms of a mental or emotional nature are present. In addition, it will only work to the extent that neurotransmitters are adequate in quantity and quality: in the event of neurotransmitter deficiency, for instance, the therapeutic effect of essential oils may be limited.

In most other cases, aromatherapy will act on a symptom relief level, regardless of the causal context and nature of the depression. However, it's also important to realize two things in this connection:

1. Symptom relief in itself is not equateable with bad therapy: it simply doesn't go as deep, that's all, and treatment may take longer. In the case of depression we all agree that symptom relief is al-

ways desirable, whatever its nature or cause.

2. Aromatherapy has an as yet unknown potential for addressing those case of depression involving actual biochemical imbalance.

The main condition currently discussed involves an imbalance of amino acids and their biogenic amines, such as serotonin, melatonin, dopamine and adrenaline. On the face of it seems that essential oil administration through the olfactory route would be somewhat, if not highly, influential in correcting these biochemical imbalances. But as always we have the placebo effect to consider, which may be as high as 30% in the case of depression. The fact is that we simply don't know enough about the scientific aromapharmacology of essential oils to make definitive statements about their actions in specific biochemical imbalances such as this one. In summary, we can say that aromatherapy has the potential for working most deeply and curatively in depression involving psychological factors, and to some unknown extent when biochemical imbalance is involved.

In addition, we should remember that the physiological absorption of essential oils via the respiratory membranes also contributes significantly to their overall therapeutic effect. Essential oils impact brain chemistry and therefore neuroendocrine functions not through neural stimulation of the limbic system alone. They also exert a physiological effect by their substantial molecular absorption through the cerebral circulation. This would help explain their therapeutic value in depression involving biogenic amine imbalance.

Differential Diagnosis of Depression

From the clinical perspective, the most commonly seen forms of depression are the following five:

1. Liver congestion
2. Sympathetic nervous hyperfunctioning
3. Neuroendocrine deficiency
4. Thyroid and adrenocortical deficiency
5. Pancreatic deficiency

Each type of depression has its own particular set of predisposing and triggering causative factors, and its specific syndrome (or symptom picture). Each depression type is then treated with certain types of essential oils, based on their

Transforming The Dragons

The Energetics of Emotions

The Five Positive Feelings, the Five Emotions and the Organ System

Emotions are important and positive expressions of our being, our Heart and ultimately our *shen* or spirit. They have been described as the yang expression of our more yin spirit. More specifically, emotions are a healthy expression of the positive, synergic feelings associated with, and generated by, the internal organs. In turn, the expression of positive emotions support the healthy functioning of the internal organs and the harmony of Blood and Qi circulation. Emotions are the normal result of internal and external stimuli or stressors impacting our synergic feelings. They are fed by the synergic feelings (their substrate, yin) and triggered by the stressors (their stimulus, yang).

The primary emotions are joy, sorrow, anger and fear. They are considered primary because they are associated with the *zang* organs and because they express a visceral autonomic response of the autonomic nervous system.

Primary emotions arise from positive the feeling states as follows.

- **Passion** and confidence belong to the Fire element, the Heart and spirit (*shen*) and generate **joy**.
- **Openness** and letting-come-and-go belong to the Metal element, the Lung, and generate **sorrow**.
- **Assertion** and motivation belong to the Wood element, the Liver, and generate **anger**.
- **Will** and trust belong to the Water element, the Kidney, and generate **fear**.
- **Empathy** and consideration belong to the Earth element, the Spleen. The related negative emotion is **anxiety**.

Under certain circumstances, a positive emotion can turn into a pathogenic one, which in turn tends to create distressed feelings (see below). Pathogenic emotions are what is commonly

known as “emotional stress.” They directly injure the internal organs according to the above relationships, and the Heart in particular, and disturb the spirit and mind (*shen*) that it houses. As such, they have always been recognized as leading internal causes of physical disease, and have been called the ‘dragons’ or ‘demons’. Every emotion, mood and change of affect triggers neuroendocrine cascades in the physical body, influencing physiological functioning for better or worse. Neuroendocrinology, for example, has today charted the negative influence of chronic stress, illness, emotions, etc., on physiological functions.

Before deciding on which emotion has affected which organ, it is important therefore to *clearly distinguish between positive and pathogenic emotions* when evaluating an emotional etiology in a patient’s case-history. The key to defining (diagnosing) pathogenic emotions is the invariable presence of distressed feelings, the persisting, chronic nature of the emotion, and the presence of Qi stagnation in general. As a rule of thumb, acute, short-lived emotions are healthy, positive emotional responses, while chronic, persisting emotions are unhealthy, dysfunctional, injurious emotions.

Only then is it possible to draw general conclusions about which particular organ system a predominant or chronic pathogenic emotion will affect. The first organ affected by an emotional stressor is always the Heart, regardless of the emotion, because the Heart houses the *shen*, the mind and spirit from which emotions arise in the first place. This simple fact is often overlooked. This is why the red-tipped tongue is seen in emotional conditions related to organs other than the Heart. This fact points to the central role of the Heart as a primary protector and director of the whole *zang fu* organ system. It is important therefore to support the Heart and mind in whatever way necessary in *any* emotional disharmony,

especially in chronic or intense emotional conditions. Hence the importance of *shen men* and the channel points that modulate the *shen*.

While joy, anger, sorrow, for instance, impact the Heart very strongly, other emotions affect the Heart less directly and affect the other organs, depending on their effect on the body's Qi. This is discussed in *Simple Questions*, ch. 39 of the *Nei Jing*. The final patterns the emotions create therefore often involve more than a single organ disharmony, usually the Heart and something else. Each pathogenic emotion will injure the organ with which its related synergic feeling is associated. For instance, sorrow injures the Lung in particular, in addition to the Heart in general. Anger injures the Liver, and so on.

Conversely, the state of the internal organs will also affect the emotional life and tend to either support it or detract from it. Internal organ disharmony can cause symptoms of chronic emotional imbalances, which in turn tend to disrupt smooth organ functioning in an endless vicious cycle. Mental and emotional symptoms can be an expression (result) of physical disease as much as its cause.

The Emotional Life-Cycle: Righteous Versus Pathogenic Emotions

Our affective or emotional life consists of interactive cycles of positive feelings, responsive positive emotions and distressed feelings. In relative emotional health, an individual alternates between positive feelings, aka synergic feelings, and responsive emotions. Synergic feelings are the positive expression of the *zang* organs that house them (see above). They include joyfulness, openness, assertiveness and trustiness. The responsive emotions, such as overjoy, anger, fear and sorrow, are caused by our need to respond emotionally to external or internal stressors or stimuli using synergic feelings as the emotional substrate. The emotional life-cycle when healthy therefore consists of an ongoing oscillation or ebb-and-flow between these two poles of affective experience. Synergic feelings continuously generate positive emotional responses, while these in turn continuously resolve or transform back into the original feelings. This affective cyclogeny is spontaneous,

homeostatic and dynamic.

This is a normal and healthy cycle involving healthy, righteous (upright) feelings and emotions, and does not involve pathogenic emotions or feelings as long as the emotional energy or Qi keeps circulating from one to the other, from generation to resolution and from resolution to generation, on and on. There is clearly no emotional Qi stagnation at this point. This allows the mind/*shen* to be active yet relaxed, and not bogged-down by emotional issues, therefore liberated in a sense.

Problems arise when the emotional response to a particular stressor inappropriate in some way. This is called a maladaptive or disadaptive response. It may be that the responsive emotion is too weak or brief (repressed) and unable to cope with the stressor, becoming overwhelmed by it. Conversely the responsive emotion may be too strong, intense or prolonged, thereby smothering the stressor in an attempt to eliminate it. Alternately, the response may simply be dysfunctional in quality alone, without being either insufficient or excessive. In any of these three possibilities the result is some form of emotional obstruction. This emotional Qi stagnation in traditional Western psychology is called a neurosis. This obstruction then disrupts the whole emotional cycle, slowing it down, making it sluggish, ineffective and increasingly pathogenic. It sends the individual into a downward spiral of dysfunctional emotional responses and distressed feelings. This obstruction then has been recognised in Chinese medicine as an important cause of physical disease by negatively affecting first, the *shen* (mind and spirit), *hun* and *po* (ethereal and corporeal souls), and second, the internal organs and the harmony of Blood and Qi.

Understanding pathogenic emotions is key to knowing how mental clarity and peace, in the Daoist and Buddhist sense, may be achieved. The only way to not identify (or uni-identify) our mental-spiritual life with our emotional life is not to disregard or suppress our emotions, but to deal with and transform our pathogenic emotions. Tibetan teachers in particular have been teaching this for thousands of years. When a pathogenic emotion finally resolves back into its mother positive feeling, the Qi can circulate again and the

mind once again becomes clear. This is the radical way of quietening the mind.

The Dragons or Pathogenic Emotions

When a primary emotion fails to smoothly resolve back into the synergic feeling that gave rise to it, it will stagnate and accumulate. This represents a maladaptive response. Because the emotion creates an obstruction in the free flow of energy, it begins to change in quality from a healthy, pure, primary emotional response to a dysfunctional, pathogenic stagnant emotion. This is when it transforms into a dragon or demon. This stagnant emotion then creates the systemic changes in Qi flow described below, and will affect the Heart before transferring to the particular organ system associated with it.

Whereas the original synergic feeling and the adaptive emotional response are clearly healthy, the maladaptive response and its resultant distressed feeling are pathogenic. The key player in the emotional cycle is therefore the emotional response, as it will determine whether the emotional energy will continue to flow and naturally resolve back into its synergic feeling, or whether the energy will become blocked and stagnant. The emotional response is the pivot between emotional health and imbalance.

The emotion of anger, for instance, can be either normal or pathogenic. It can be a normal response to a given situation, fueled by the synergic feeling of instinctive assertiveness. However, if it does not resolve back into simple assertiveness, it will turn into pathogenic anger. This injurious emotion then in turn breeds distressed feelings.

It is therefore fundamental and necessary to evaluate any primary emotion, whether joy, sorrow, anger or fear, in two ways. First, whether it is healthy, solvent and part of the righteous Qi, or whether it is a maladaptive response that creates an obstruction of pathogenic Qi.

Next we need to see *how* the responsive emotion became pathogenic and to identify *which* distressed feelings it generated.

Distressed Feelings

Distressed feelings are the front line of emotional expression when they are present. They are the first thing we hear or sense when an individual is

emotionally distressed or imbalanced. Imagistically, they are the claws of the dragon. They are the branch of the underlying root condition, just as physical symptoms are the branch of the underlying syndrome. The root condition in this case is the pathogenic emotion.

Distressed feelings can be seen in an infinite variety of shade and expression, and are difficult to categorize. Commonly seen distressed feelings include guilt, jealousy, complacency, pensiveness, despair, rage, hostility, mistrust, obsessiveness, disconnection and so on. They can be directed inward to the self or outward to the world.

Distressed feelings can also intermingle as well as interact with the primary pathogenic emotion from which they arose. This often makes diagnosis of the source stagnant emotion difficult, as they will tend to hide or mask the source pathogenic emotion. However, the patient's physiological condition and their constitutional type will usually point to the type of true emotional stagnation that is causing the expressed emotional distress.

Like pathogenic emotions, distressed feelings are also not entirely spontaneous, autonomic responses. To a greater or lesser degree, they involve a certain amount of cortical control and therefore awareness.

Individual and Cultural Expression of the Emotions

From an anthropological point of view, emotions are closely conditioned by cultural attitudes, which vary widely across the planet. Our ability to let go and experience fully an emotion, not to mention our capacity for expressing emotions (whether in private or in public), is extremely conditioned by our family and cultural upbringing. Keep this in mind in today's multicultural environments. The descriptions below in no way are meant as a value judgement on any particular culture, but simply as descriptive statements that can aid us in better understanding the intrinsic nature and treatment of the pathogenic emotions.

It seems that every culture tends to favor the expression of particular emotions and deny the expression of others. Western culture in general tends to suppress anger and sorrow, causing further deficiency and stagnation of the organ Qi in-

volved. It also favors joy and excitement in particular. Mediterranean cultures tend to allow anger as a primary expression and tend to suppress fear and anxiety. British ex-colonial culture with its “stiff upper lip” approach traditionally tends to deny fear, anxiety, joy *and* anger! Some Asian peoples tend to deny the expression of joy and anger, which are both Yang, outward moving energies.

The result of these emphases is that the favored emotional expression then in turn is used as a mask for underlying emotions that are different from what is being expressed. This is the difference between emoting and expressing an emotion. The expressed emotion can also represent a distressed feeling.

In certain cultures, particular emotions and feelings are somaticized: they are experienced and expressed as physical signs and symptoms rather than as feeling experiences.

The Pathological Emotions: Energetic Effects and Essential Oil Treatment

Each emotion is described with various names, and choosing a primary one is difficult in any language. The different names result from whether they describe more the inner affect (the first name) or the outer expression (the second name), and whether they describe more the overactive or underactive aspect of the emotion.

JOY / JOYFULNESS

An emotional state that is endemic to Western culture as a whole and is often seen by us as being normal and OK when excessive, although not by most Asian cultures.

Characteristics: The emotion of pathological joy, overexcitement, emotional agitation, derived from the positive feeling of joy and confidence that is related to the Heart and the element Fire.

Qi energetics: A scattering, dispersing effect on the Qi, making it float outwards. This overstimulates Heart Qi and over time is said to enlarge the heart.

Pattern symptomatology: Heart Qi stagnation with restlessness, nervousness, agitation, excessive laughter and talk, a laughing type of voice, palpitations, insomnia, a red-tipped tongue. This is a

common and important syndrome that, if prolonged and untreated, can lead to Heart Blood deficiency and then Heart Yin deficiency, or conversely Heart fire.

Sudden excitement can act like a shock, e.g. sudden good news (see below).

Diagnostic points: Uncontrolled/shifting eyes, pulse rapid, tongue red-tipped, ruddy cheekbones

Treatment principle: Astringe and stabilize the Qi, regulate Heart Qi and calm the mind

Essential Oil Treatment

• *Sweet* oils to regulate Heart Qi and harmonize the mind: Bergamot, Mandarin, Neroli, Lavender

• **With Heart fire:** *Rooty* oils to astringe and stabilize the Qi and calm the mind: Ginger, Vetiver, Patchouli, Spikenard

• **If acute:** oils to gloss the mind: Ylang ylang, Jasmine, Neroli, Sandalwood, Tuberose

SORROW / GRIEF

Characteristics: The emotion of pathological sorrow, grief, sadness

Qi energetics: In the upper warmer it causes a simultaneous knotting up or constraining of the Qi and a dissolving, draining effect. Sorrow first agitates and contracts the Heart Qi, then causes a depletion of the Lung and Heart Qi. Over time this upper warmer Qi deficiency results in a secondary Qi stagnation.

Pattern symptomatology: Lung and Heart Qi deficiency with listlessness, depression, fatigue, shallow breathing, weak voice, a weeping, whining or complaining type of voice; weeping, chest oppression, a weak pulse in the front positions; short, flat (no wave).

Untreated, this syndrome can lead to Lung and Heart Qi stagnation with palpitations, restlessness, insomnia, breathing difficulties, etc., or to Heart and/or Liver Blood deficiency with more deficiency symptoms present. In women, sorrow can lead to Blood deficiency and amenorrhea. Chronic unexpressed grief can also injure the Kidney Qi and much later may cause Liver Yin deficiency.

Diagnostic points: Lustreless eyes, pulse rough, short, without a wave (flat), weak

Treatment principle: Tonify and astringe Heart

Quality Issues

Creating Clinical Definitions and Standards

It should be the prime concern today among practitioners that the oils they choose for their practice be as “pure” and “high quality” as possible. Of course, we all want oils that are therapeutically potent and bioactive. This may seem like a simple requirement, but the fact of the matter is more complex than it first may appear. “Purity,” “high quality,” “organic” and “genuine” are all variable and malleable concepts. What is missing from today’s clinical usage of essential oils is a rubric of logical definitions concerning essential oil quality. As practitioners, we need to define for ourselves what constitutes an essential oil appropriate for clinical use, a fully bioactive oil that meets our requirements for full therapeutic efficacy.

From a practical standpoint, the root of the difficulty of defining as well as obtaining essential oils that actually deliver what they are supposed to is simply a commercial one. The current commercial context in which essential oils are produced and traded that makes this simple requirement for quality not a simple proposition. A quick glance at the world trade statistics in essential oils and other fragrance products, such as plant concretes and absolutes, will reveal that the perfumery and food-flavoring industry between them utilize over an estimated 96% of the world’s supply of essential oils. Only the remaining few percent is ever used for other purposes. In this tiny sector, cosmetic manufacture most likely dominates the market share, which leaves only a very small percentage ever used in clinical practice of one kind or another. The commercial reality is that the perfumery and food-flavoring industry, two giant worldwide industries, basically monopolize world trade in essential oils and in so doing set the universal standard for their quality. The monopoly of this unholy alliance starts right from the agricultural production of the oils, their

transportation to developed countries, through to their laboratory standardization and finally their commercial distribution to all and sundry. The flavoring corporations, for instance, consume most of the world’s supply of spice, citrus and mint oils, while the perfume giants absorb floral oils and absolutes more than any others.

As we will shortly see, the quality standards of these two giant industries are absolutely different from those of practitioners, those of us involved in utilizing essential oils for therapeutic purposes of one kind or another. As practitioners we are interested in setting *clinical standards* for essential oils, not sticking to current commercial standards—a huge difference. This is the key to the quality dilemma. As a result, we need to find sources of essential oils that have literally not been standardized by the giant corporations. However, this is difficult because of their lion’s share in the world market. It is difficult and confusing to even try to obtain oils that have been sourced independently of these industries. Still, as a result of the increasing need for high quality essential oils by therapists of all kinds, some new, independent importing and distribution networks have slowly developed during the last 10-20 years or so. This in turn has encouraged some producers to make higher quality oils, even to “turn organic” in some cases, expensive and time-consuming though this process can be. This is clearly a welcome trend, despite the abuses that sometimes arise in tandem with the expansion of this market.

There are two problems here. The first problem is purely a practical one. Small importers of genuine essential oils face a huge financial challenge both on the buying and the selling end. They usually cannot compete with the huge volume- and profit-driven perfume and flavoring corporations, who support mass production of

low-quality essential oil crops and large-volume, low-quality distillation. For the small importer/distributor, the buying and selling prices for high-quality oils are considerably higher than the corporate ones, often resulting in low turnover or even liquidation as the market fails to support those higher prices.

The second problem is that as practitioners we ourselves need to become educated on what constitutes an essential oil that is therapeutically potent. Wishing or hoping for truly bioactive essential oils to announce themselves is simply not enough. We need to be proactive in defining for ourselves what constitutes a clinically viable oil. It is high time to lay out general logical criteria that will help us clearly determine what is popularly called a “therapeutic-grade” oil. Clear criteria and guidelines based on understanding the issues involved is the real point here, not arbitrary adherence to anyone’s grading system or promotional material. In this essay we will create some outline clinical definitions of what constitutes an oil that actually delivers the goods from the therapeutic point of view.

We can define three criteria for a therapeutically bioactive essential oil: genuine, authentic and high quality. The first two criteria can be physically substantiated with the appropriate paperwork, while the third criteria also involves qualitative aspect that cannot always be scientifically backed up by current scientific standards. We can therefore define the equation as follows:

Genuine + authentic + high quality oil =
bioactive essential oil suitable for clinical use

The beauty of understanding and working with these quality definitions is ultimately that they hold the key to our ability to choose the type and quality of oils that we need. That’s clinical power. Once these criteria have been met for a particular oil and we can say, “this is a therapeutically bioactive essential oil,” the rest is a piece of cake, as they say. Then we can create our own preferences for oils from particular countries, areas or even fields; for oils of certain chemotypes or chemical dominances; oils from particular parts of the plant, and so on. We can then enjoy true creative freedom in the palette of oils we select, which is an ongoing process involving clinical

needs, personal predilection and unexplainable other factors.

Let us look at each therapeutic criteria in turn to define modern clinical definition of quality.

1. A Genuine Essential Oil

The concept “genuine” refers to the fact that the oil is accurately defined in terms of its botanic and geographic source. The oil should be extracted from:

• **A specific plant genus, species and chemotype.** If necessary, this information can be provided by a certificate of authenticity or a certificate of analysis. Here are some examples.

- Lavender oil should specifically be from *Lavandula angustifolia* rather than a different lavender species, e.g. *Lavandula x fragrans*, lavandin.

- Ravintsara oil should be distilled from *Cinnamomum camphora* ct. *cineol*. The genus is *Cinnamomum*, the species is *camphora* and the chemotype is *cineol*. In this oil, cineol is the dominant component, seen in its fresh-pungent aroma.

Many botanical oil names of course do not have chemotypes, or at least specified ones; just genus and species, as in *Citrus aurantium*, the botanical name for orange oil; and *Eucalyptus globulus*, the botanical source for Blue gum eucalyptus.

Knowing the genus name alone is not enough, as with Jasmine absolute, for instance, which can be extracted from *Jasminum grandiflorum* or from *Jasminum sambac*. The first is the well known Arabian jasmine, sweet and ambra in fragrance; while the second one is Jasmine sambac, having sweet, green notes. From the psychological aspect, they are quite distinct, the first being more euphoric, warm and emotionally nourishing and uplifting, and the second more calming, cooling and soothing. Knowing the species therefore can sometimes tell us about the essential property of the oil.

Other important oils where different species are available include *Eucalyptus*, the eucalypts, *Cedrus*, the cedars, *Lavandula*, the lavenders (with its several species, varieties and cultivars), *Myrtus*, the myrtles, *Pelargonium*, the geraniums, *Picea*, the spruces, *Abies*, the firs, *Melaleuca*, the *Melaleucas*, *Salvia*, the sages and *Foeniculum*, the fennels.

Some essential oil plants yield several chemotypes, notably *Rosmarinus*, or rosemary, *Ocimum*, or basil, and *Thymus*, or thyme. Here the dominant type of component in the oil will determine its main function. Thyme ct. linalool has linalool as chief component, is completely non-irritant to the skin and predominantly antifungal in property. Thyme ct. thujanol, in contrast, is strongly skin-irritant and a better all-round antibacterial and immunostimulant. Clearly, it is very important to know which chemotype of Thyme is required.

- **A specific plant part**, e.g. leaf, herb, fruit, wood and so on. Knowing the particular part of the plant used can tell us whether the correct part was used to distill the oil. In some plants, several parts may be distilled, as in Juniper berry oil and Juniper twig oil, and even Juniper berry and twig oil, where both parts are combined. Each of these has particular actions and clinical uses. The plant *Angelica archangelica* is often distilled using either the root, the herb, the seed or the whole plant, including the seeds. Other plants where different parts are currently distilled include Clove (bud/leaf), Cypress (twig/cone), Laurel (berry/leaf). Each part of the plant yields a somewhat different scented oil with a somewhat different chemistry and is used in a particular way. This principle is no different than we find in Western or Chinese herbal medicine.

- **A plant of a specific part of the world.** It is both interesting and informative to know where the plant was collected and its oil extracted. Each oil should be geographically traceable, ultimately through batch number records. This can tell us a lot about the type of quality and scent of an oil, as well as the chances of it being adulterated, and so on. We all have preferences for oils from certain regions and areas, and this is only natural. Currently, Lavender oil is available in significant quantities from at least six different countries, including France, England, Bulgaria, South Africa, China, Tasmania and the US. Each produces fine examples of this oil, but which are subtly different because of geographic and climatic variations. Some are more green, herbaceous, others more sweet and floral, others more pungent, others more woody, and so on. Likewise, they vary in

the proportion of their chemical components. Fragrance and chemistry both will determine which ones we need or prefer for our use.

Vetiver is also available in an amazing range of aromas and colors, being produced variously in India, Reunion, Madagascar, Indonesia, Haiti and El Salvador. Some are deep-smoky in their earthy, rooty quality, while others are more lyrical with sweet-wood and pungent notes, and others again have a lush, rooty-green quality that dominates. They all have their place and purpose in practice.

2. An Authentic Essential Oil

As a second clinical definition of a bioactive essential oil, the term authentic here refers to what most of us would think of as “pure.” It means that the oil in the dispensing bottle is exactly the same oil that was originally distilled by the producer. The oil has not been changed in any way by poor storage, by deliberate adulteration with other oils, chemicals or other liquids.

Between the producer and the ultimate consumer, and in the time period it takes for the oil to go from one to the other, two types of alteration can occur to an oil:

A. Natural alteration or degradation. This is largely due to poor storage conditions and sometimes shipping conditions. The oils most vulnerable to warm temperatures, exposure to sunlight and excessive headspace of air inside the bottles are the citrus oils, such as Lemon, Mandarin, Bergamot, Lime and so on. Their aldehydes and monoterpenes are both prone to oxidation, while their unsaturated compounds are subject to polymerization. These spoilage reactions can in time turn a pleasant-smelling bioactive citrus oil into a strange, fishy-smelling, lifeless liquid. Citrus oils will not survive long ocean journeys from Italy, for instance. In the summer months they should be refrigerated when room temperature exceeds 72 F. Citrus oil containers of all sizes should have as little air space in them as possible to prevent or at least reduce these two types of reactions.

B. Industrial falsification or adulteration. Essential oils throughout the world have since recorded history been falsified in order to make