

Hermetis Scientae

Book One Basic Principles

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Preamble

It is necessary to begin laying a foundation for any practical work in Hermetism by providing a reasonable supportive theory on the subject. It is important to remember that as theory some of the material presented in this document you will agree with and some you won't. That is only natural. It is not important, generally, what you disagree with, or have reservations about, or what you accept in the following discourses. The idea of providing you with this theory is primarily to give you the opportunity to see Hermetic philosophy, which underlies the Hermetic process, from my point of view. You should be aware that essentially education, from a tutor's point-of-view, is a recapitulation of his own journey to the student, and almost nothing more. While what you are about to experience is not a direct retracing of my own steps it is an attempt by myself to put what I have learned into some kind of an orderly and coherent package, with all that is superfluous removed, so that you can more easily make sense of it.

Practice should be provided with a motive and a good technical justification. This is the reason behind presenting my theories concerning the work first. The theory describes the playing field, then the mechanics of the game, and finally from that a plan of attack can be outlined. The plan of attack refers directly to the practical exercises formulated to gain the greatest chance of success from walking the path of Hermetic initiation.

Next, we need to define exactly what we are talking about here. When I use terms like 'the work', or 'initiation', or 'the process' I refer most often to what I, and tradition, prefer to call *The Great Work*. As far as I am concerned The Great Work is foremost the process of initiation, that is, putting another person in a position where he can see the true nature of reality. Magic and alchemy both form part of the process of Hermetic initiation, but are not ends unto themselves. What is commonly called by the mystics *Union with God* (after the Eastern tradition), and the guardians of the Western tradition have preferred to call *illumination*, is the ultimate outcome of the process. It is this Enlightenment that enables anyone to be able to perceive the true nature of reality, a point-of-view so essential to the Hermetic tradition..

In the documents that follow I will endeavour to avoid the use of traditional technical language as much as possible. Wherever I can I will begin by defining traditional terms in modern language and then continue, on the main, to use the modern expressions. The reason behind this is to attempt to avoid misunderstandings that can arise from conventional (or popular) definitions of traditional terminology.

These conventional definitions are often very limited and very inaccurate because the conditions they refer to have been misunderstood for centuries. Nevertheless, there are some esoteric ideas for which the English language, or Western culture, or common understanding, does not have a conception. In such cases it is better, or necessary, to rely on traditional technical terminology. In such cases I will provide a detailed definition drawn from my knowledge and experience.

I advise you to take your time in reading through the following documents. There are many years of experience and study compressed into few words, and in order to extract the kind of understanding from this information that it was intended to provide these documents should be studied, not simply read.

Chapter One

Initiation and The Great Work

The heart and soul of Hermetism is the process of that which is commonly called *initiation*¹ into the mysteries. All other material that falls under the banner of the science of Hermes must take second place, in consideration, to that of the subject of initiation. Without the leverage this essential kernel concept provides the arts of Magic, Alchemy and Qabala, which are the machinery of Hermetism, remain impotent and produce nothing of real, lasting, spiritual or practical value.

Although the word initiation is defined as “a new beginning” in any good dictionary, within the mystery tradition it has a somewhat more extensive meaning. It not only refers to one’s beginning a new lifestyle, one devoted to the study and work involved in walking the path of the training of a student of the occult, but it also refers to the process that follows the start of a journey into the sacred mysteries. This procedure of initiation itself is what has been traditionally called in Hermetism, *The Great Work*. Even though the term is likely to have first been used by alchemists to refer to the method of confecting the physical Philosopher’s Stone, in its broadest sense, we might rightfully define The Great Work as the process, from beginning to end, that must be endured on the path of the *deliberate* search for enlightenment. It should be pointed out that in order to make conversation about this subject meaningful, that The Great Work only refers to such initiatory processes that actually do lead to enlightenment ... as opposed to systems that are based on ideas that purport to, but in reality can never lead directly to enlightenment, through some fault or misunderstanding inherent in them.

Enlightenment itself we might define as –

“The illumination of ones understanding that arises at the summit of the deliberate search for a full conscious awareness of the totality of ones own being.”

The basic concept here being that our daily crude mental state, and the gross lack of understanding of the true nature of reality that accompanies it, stems directly from the fact that we judge life from a point of view that is largely incomplete. We don’t have all the facts or all the tools necessary for a complete view at our immediate disposal. When we attain to a condition that allows us to see and know ourself completely, because we exist as a hologram of the Universal Being, we then come to a (relatively) complete understanding of the nature of reality – i.e., *enlightenment*: to bring illumination into the part of ourselves which is obscured by the darkness of unknowing.

¹ And subsequent advancement.

The greatest obstacle to progress in The Great Work is a lack of understanding of what actually is required from an individual on that path. Further, many desire to take up the task without much more than the most superficial idea of the nature of the goal itself, only to discover, once real progress is made, that, at least for the time being, they do not now want what they originally set out to obtain.

So I believe that any serious consideration of the Great Work must surely start with a careful and detailed description of what it is that we are actually considering here.

Therefore, as we start in this work, to build an edifice of a philosophy of Hermetic initiation, we must first look at the foundation upon which that philosophy was built by our ancient forefathers. This foundation is formed of three features, the first of which is a belief in the existence of a Supreme Being.

The Nature of the Supreme Being

To the Hermetist the word *God*, in reference to *the* God, includes three simple ideas concerning that Being's nature and authority:

- (1) God is responsible for the *existence* of every thing and every condition (omnipotence),
- (2) God is *in* every thing and every condition (omnipresence), and
- (3) God's *intelligence* is superior to every other intelligence (omniscience).

It should first be clearly understood that the word 'every', in each of the three points above, refers to *all* without exception. It does not refer to 'most' or any other degree less than *completely*.

This set of ideas constitutes the most basic concept of *the* Supreme Being as far as Hermetic philosophy is concerned. A position of Being, in relation to which, *no* other thing, process, condition or situation, is greater in any way. There cannot exist any thing, process, condition or situation that can act without God having created it, being a superior intelligence within it and being in control of it. There are no exceptions to this rule.

Any philosophy that believes there is an exception to this rule is not Hermetic, in the original and classic sense of the word.

As the essential foundation of Hermetic philosophy this concept is of the utmost importance. If we do not begin our journey from this premise the path immediately leads away from the process of initiation as recognised and taught through some thousands of years of *Hermetic* tradition. This fact cannot be stressed enough.

At the same time that we consider this concept we must remove from our contemplation any idea of *God* that is connected with common or conventional (usually religious) concepts of Deity. The Hermetic concept of the nature of God is far, far, removed from the vision of

an anthropomorphic or animistic overseer that has come to be accepted by the common mind. Indeed, it is probably best to refrain from trying to conceive of the nature of the Supreme Being, outside of the simple abstract concepts presented here, so as not to fall into the trap of imposing limits on to some-thing which has no conceivable limits.

The next, or second, most important feature of the foundation concepts of Hermetism concerns the focus of the Supreme Being. Here we speak, primarily, of the purpose of existence, the whole of the created universe². Hermetists recognise that the primary force in the universe, the universe's fuel, if you like, is a force we might call *Intention* or (conventionally) will power. Apart from God having created every thing, being every thing, having the superior portion of intellect in everything and controlling the existence of every thing, those three conditions, and the entire purpose of the universe, revolves around a particular *Intent* – God's Desire for Self-realisation through Self-expression.

In a sense, this Intent-in-action is the force of evolution itself. It is the evolution of every thing, every condition, every species and every process. We might describe evolution as a growth towards greater Self-awareness, and this brings us to the Hermetist's third core belief – the third feature of the essential foundation of Hermetism.

The third feature states that the condition we call *individual life*, and awareness, is a process of attaining to *personal* self-realisation ... through self-expression. It is the evolution of the Intent of the Supreme Being expressed through the myriad of individual life forms.

When this feature is realised by the individual, and that individual *deliberately* aligns itself with this universal purpose, Hermetists call the resultant direction of the life of the individual *The Great Work*.

The student of Hermetic science who is committed³ to the discipline of attaining self-realisation, and who is fortunate enough to find himself under the guidance of a capable teacher, is traditionally referred to as an *initiate*. This is the actual technical reason for becoming an initiate – a desire to align oneself with the Intention behind the creation of the universe by deliberately seeking *full* self-realisation ... a conscious awareness of the totality of ones being (enlightenment.)

The concept of The Great Work being (and requiring) a deliberate personal effort is central to the Hermetic philosophy of initiation⁴ – the individual's taking personal responsibility for effecting the

² Note: 'created universe' does not simply refer to matter or various degrees of proto-matter. It also refers to intelligence, conditions of intelligence, energy and matter and the mechanisms of intelligence, energy and matter.

³ Not simply in words, but in actions.

⁴ And it is this concept that puts Hermetism in direct conflict with Christianity; one of whose primary tenets is that individual salvation relies on the Church as an intermediary.

direction of his own evolution by reorientating his life and focusing it upon the goal of enlightenment.

The motive behind this choice should be obvious. If one aligns oneself with the primary motive-force supporting the machinery of the universe, ones progress should, by definition, be more rapid, balanced and, it seems, ones existence more enjoyable because it harmonizes with nature.

Therefore we start with three premises:

- (1) That there is a Supreme Being, and
- (2) That It *Intends* Self-realisation. (From these two premises we develop a motive for the use of initiation and a starting point for technique.)
- (3) That to seek self-realisation oneself, is the basis for an esoterically productive life.

Once we take the step to commit to the life of a Hermetic initiate any further success on our journey relies on an acceptance, understanding, and effective application of these three fundamental concepts.

If we don't believe in the Supreme Being as the origin of the omnipotent, omnipresent and omniscient Intent then we become, likely, a law unto ourselves and we can make up any theories about what is productive or unproductive as far as life's goals are concerned. If we don't believe the Supreme Being has an intention for creating the universe the situation is pretty much the same, anything goes.

The motives for our approach to dealing with the process of the Great Work, are, then, based on these core ideas about the Existence and Nature of God. Although the novice initiate cannot confirm the validity of these premises for himself at the start of his journey, I would insist that the processes⁵ that have developed out of these fundamental beliefs⁶, and put into practice as techniques for attaining enlightenment, eventually validate what is first presented as Hermetic theory. To be objective, in supporting the sceptic's view, to a degree, we can say that at the very least measure this Hermetic approach to initiation *behaves* as if our initial essential premises about the Supreme Being are true.

I do agree that the exact nature of the divine state cannot be accurately known by the *human*⁷ mind. Therefore a novice cannot be absolutely sure that this essential theory is one that accurately explains the whys and wherefore's of the successes gained from the practical Hermetic in initiatory techniques. What does matter at the end of the day, though, is that the *practical techniques* used to attain enlightenment, which stem from the theory, do assure progress, as claimed by the adepts who have designed, perpetuated and followed

⁵ That is, the esoteric disciplines.

⁶ Or which may have possibly been their source, originally.

⁷ Aka: homo vulgaris.

the path ... and taken certain measures to assure their knowledge and practices are preserved for succeeding generations of initiates.

This having been said it should be understood that those who have travelled even a small way along the path towards enlightenment will often insist that while a rational explanation of the theory and motives for the techniques used, and the desired direction the initiate travels, are important, one soon realises that the experience itself reveals a type of knowledge, or gnosis (as it has become common to refer to it), a direct perception of the truth that is self-validating.

I accept that this type of justification for a worldview, and an approach to guiding ones future progress, is often not at all acceptable to the mind trained in common, rational, or positivist thinking. I make it quite clear, though, that this treatise is not begun and continued with the intention of arguing the reasoning behind Hermetic approach to life. On the contrary it is written for the individual who either already accepts the Hermetic point of view, or who, for whatever reason, wants to come to a greater understanding of that view and possibly apply its theory in a practical manner.

With this in mind we begin our journey into the world of the Hermetic initiate, our personal understanding of this most ancient and beautiful esoteric journey into the hidden regions of human experience and endeavour.

Chapter Two

The Machinery of Evolution

The primary concept upon which Hermetic philosophy is founded is that reality⁸ has developed its form, nature or character out of a condition that we might define as a *formula*, or abstract mechanism, that underlies all existence. I am in the habit of referring to this universal mechanism, commonly, as *evolution*⁹, where this evolutionary impulse is itself the primary *manifestation* of the Intent of the Supreme Being. This formula (in a conceptual sense) is the immediate response to a Desire (the Divine Intent), which then *manifests* itself, in the concrete world, as a universal¹⁰ mechanism of nature.

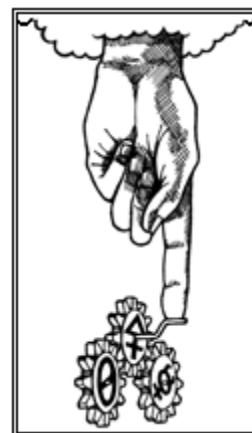
Using modern computer terminology as a metaphor to help define the concepts of *formula* and *mechanism*, we can say the formula is the software of the universe and the mechanism is its essential hardware.

We might then say that this trinity: a need, a plan for fulfilling that need, and a mechanism for carrying out that plan, lies at the very root of Hermetic philosophy.

Any serious understanding of any aspect of Hermetism must be based on the concept expressed earlier. All that Hermetism is, and the Great Work itself attains to, is based on this premise, that there is a Supreme Being¹¹ which is the cause of existence, that It has an Intent (a need), and that that Intent is expressed in actuality as *a state of becoming* which I refer to commonly as the mechanism of evolution¹².

This mechanism is directly related to divine omniscience, in that as an orderly function, based on a design, and with a direction and purpose, it is a manifestation of pure Intelligence.

Nature has placed this mechanism, so that it can express the universal formula of evolution, in every seed in the animal, vegetable and mineral kingdoms. The mechanism of evolution, being a universal process, is not absent from any department in nature. This means that to the Hermetist everything in existence is evolving. While



⁸ Reality: in this sense refers to everything that *actually* exists. This includes not only everything in the animal, vegetable and mineral kingdoms, but also the processes that drive these manifestations, and the relationships that exist between each department of nature.

⁹ It should be understood here that my use of this term (evolution), while it does encompass the essential concepts of Darwinian evolution, refers to a view of evolution that has far wider implications than the Darwinian view.

¹⁰ Universal, as in, found in every thing, condition and situation,.

¹¹ A more modern term for *Supreme Being*, conveying a better understanding to contemporary students, might be *Universal Intelligence*.

¹² By evolution I do not mean Darwinian evolution. I am talking about the natural progress of any thing in creation, not necessarily towards a certain goal, but along a path that is defined by a refining of function and condition.

Hermetism does not necessarily recognise an end to evolution, or a specific end-state which evolution seeks to attain, it does recognise evolution, the response to the Intent of the Supreme Being, as a mechanism inherent in all things that urges a refining of function and condition in each department of Nature. Every *thing* is constantly *becoming* more perfected.

We might define *perfection* as a condition that embodies the best of both *economy* and *beauty*.

While the formula for evolution is a universal archetypal field (if you like), lying *behind* and actuating every thing, the universal mechanism of evolution itself, which is the immediate response to the formula, can be found *in* every thing. The relationship that exists between the formula and the mechanism of evolution might be equated, metaphorically, to the relationship that exists between a magnet and its magnetic field. The formula contains the *idea* of attraction and repulsion and the mechanism, being the focus for and manifestation of, this idea, in the physical realm, attracts to itself what it needs to evolve and repels from itself that which retards its evolution. While this is a somewhat crude analogy it is nevertheless apt, as the magnet and its forces have a close relationship to the universal mechanism and its formula.

This force, which I have called *Divine Intent*, *The Formula* and *The Mechanism*, was termed, rather crudely, *spagyria* by the alchemists of the classic era.

Spagyria is a Greek term, believed to have been coined by Paracelsus, and derived from two roots: *spao*, which means to separate, and *ageiro*, meaning to recombine. The word spagyria itself, therefore, makes a rough reference to a formula that is well known by every experienced student of laboratory alchemy, the spagyric formula – to *separate*, *purify* and *recombine*. Hermetic Philosophy informs us that it is, in a very simplified form, the formula or program of divine Intent, in action, that we have been discussing.

There is a single universal formula for evolution that lies untouched behind physical manifestation, and a single universal mechanism for expressing that formula that exists in all things in created existence. This mechanism, as we have said, attracts to itself those things that it needs to develop in the created universe. In so doing its original, universal and homogenous nature is changed, *exteriorly*, and it becomes differentiated, firstly, into each of the three natural kingdoms. By this means we begin with one universal mechanism and it alters itself into three expressions: animal, vegetable, and mineral life and structure.

Within each of these three kingdoms the universal mechanism alters its *appearance* yet again, diversifying into the various species and even each individual entity therein. Each successive step in the diversification process has two primary effects on the universal formula and the universal mechanism. Firstly, it allows the primal mechanism to become increasingly more complex in its

manifestation. Secondly, the complexity of the heavily evolved mechanism dampens the effect of both the original formula and of the original mechanism.

In this way a horse, for example, while being one of many 1000's of types of animal, and one of many 1,000,000's of individuals within its species, is nothing more than the original, simple, universal mechanism evolved to a very complex and specific state.

The machinery of evolution is composed of three parts. Alchemists refer to these parts as the 'principals'¹³ and name them, Mercury (the manifestation of omniscience), Sulphur (the manifestation of omnipotence), and Salt (the manifestation of omnipresence.)

¹³ The correct spelling here is 'principal', meaning foremost, primary and first, not 'principle', which makes reference to morality, ethics or law.

Chapter Three

“Above and Below”

The next important concept to consider is that which is described in an opening passage of the Emerald Tablet of Hermes¹⁴ ...

*“That which is above is like unto that which is below,
and that which is below is like unto that which is
above ...”*

In relation to the goal we are presently working towards, *above and below* can be defined in two ways. Firstly, as representing the binary - microcosm and macrocosm. Secondly, as representing the binary - physical (outer world) and spiritual (the inner world.)

These concepts are not complex ones to grasp. The relationship between the macrocosm and microcosm is a holographic one. This idea is mentioned in Genesis where it is said that man was made in the image of God, for example. This idea states that all individual systems, such as a plant or animal, are simulacrums of a blueprint mechanism. Each species, though, is a variation on the blue print's theme, adapted to a particular department of nature. While superficially one species of animal might look quite different from another, and an animal very different from a plant, essentially all are variations and adaptations of the same universal mechanism.

Not only this but if we take any particular part of an individual system, and look at it as a unit on its own, we will find that it also displays, essentially, the same makeup as the universal mechanism.

This is the basis of the concept of a hologram, of the idea of microcosms within the overall macrocosm.

Similar to the concept of macro/microcosms is the concept of internal and external worlds. Every 'thing' in creation has both an internal and invisible structure and dynamic as well as an external, visible, structure and dynamic. The one is a reflection of the other. While the inner may not, superficially, look like the outer, they essentially are the same mechanism, but seen from two different points of view.

¹⁴ The Emerald tablet was probably written at the dawn of the Christian era, even though tradition ascribes Hermes Trismegistus as its author. It is one of the most important foundation documents of Hermetic thought.

Chapter Four

Alchemy

There are many and varying opinions about what alchemy is, or is supposed to be. At the end of the day it might be noted that very few of these opinions, whether based on practice or simply upon theory, have little relationship to the facts of the matter. Whatever your personal opinions or definitions of alchemy might be, or whatever the opinions of others might amount to, I am not at all concerned with them here. The purpose of this document is to present a view of Hermeticism, specifically here, of alchemy, which can act as a common ground for understanding amongst those who are studying the art within the circle of students that has congregated around this instruction.

In order for this group to be able to discuss the theory and the manual practice of our art, *productively*, and economically, it is necessary to have a common ground of understanding ... to possess a common understanding of technical language, and to share a common image of an alchemical world-model in order to communicate ideas essential to such a productive interaction. This is absolutely critical in an environment where a multitude of opinions (whether they be realistic or not), and a multitude of ways of trying to communicate, proliferate.

Having already laid out the basic universal principles of Hermetic philosophy in the previous chapters, we can now turn specifically to a consideration of alchemy itself and apply these concepts of Hermetic philosophy to a definition of alchemy.

I have presented the idea of the Universal Mechanism of nature, which, I have made clear, is resident in all the departments, conditions, systems and objects in nature. It is hoped that by this point you have a clear picture in your mind of what this mechanism is and how it affects all of creation.

“In its most abstract, its broadest and most universal sense, we might define alchemy as being the action of this universal mechanism in nature.”

This means we can find operating in every area of existence, in the birth, life, death and rebirth of every being, every group or society, every philosophy, in art and science, indeed every object, system or condition, the process of alchemy ... or the universal mechanism. Therefore, as I have suggested, broadly speaking, alchemy can be found everywhere and in everything.

The effect of the alchemical mechanism is what I have referred to as evolution, that which tradition has called *transmutation*¹⁵.

But for practical purposes, that is, the practical purposes of our art itself, and in consideration of the actual alchemical tradition, such a general definition does not serve any real use. We cannot ignore the fact that while this general, universal, definition must be accepted as accurate, the original Masters of our art used the term *alchemy* or *alchemist* with something more specific and less general in mind.

While there is little doubt in the minds of informed students that alchemists have concerned themselves with a personal-internal esoteric dimension to their art, the foremost and primary focus of the alchemist's activities was chemo-energetic. I will suggest, therefore, that the definition of alchemy that would have been most accepted by the old alchemists would be that:

“Alchemy is the science of the working of the universal mechanism in the realm of chemistry, and the art of making practical use of that knowledge.”

There have always been three levels or depths of understanding of alchemy, though, and each in its own way valid. While it might be the grossest level of practice the primarily chemical focus is still valid. When I say ‘chemical’ I refer not to the modern chemists point-of-view, but rather to the classic alchemist who, for whatever reason, was unaware of the deeper esoteric facet of the art, but nevertheless practiced canonical classic alchemical processes and obtained degrees of alchemical results¹⁶. This first level of involvement we might refer to as a neophyte's depth of understanding. We can probably say that a large number of individuals who are curious about alchemy today, and either primarily theorise about its problems, or also get involved in practical experiment, but who see alchemy as primitive chemistry that can only be properly understood and realise its aims through the use of modern chemistry and physics, belong to this group also. At the dawn of modern chemistry such individuals were referred to as archemists.

The second level of participation consists of the artist understanding that beyond the simple chemical manipulations required by canon practice, there also exists a deeper more mysterious energetic level and he seeks to understand and incorporate in his work. I believe today that the greatest number of individuals who seriously consider themselves traditional lab alchemists belong to this group. I might add that the members of this second group often, also, believe that this chemo-energetic aspect of the art is somehow related to the spiritual life of man. But it would also be accurate to say that very few members of this group have any real idea at all of what this chemo-spiritual relationship consists of. Some would like to but

¹⁵ It is necessary to be more specific here and point out that transmutation is the term alchemists give to accelerated evolution.

¹⁶ This is the point-of-view that eventually led to the development of modern scientific thought, in particular, modern chemistry.

don't, some believe they do, but in reality few have any real idea at all. At the same time, because this second group lacks a real understanding of chemo-energetic traditional alchemy they often are reduced to falling back on to a pseudo-chemist's views and behaviours.

The third level of participation is the level that the smallest number of artists belong to, by far. The individuals working with alchemy at this level not only accept the concepts members of the previous two levels accept, but they also possess the added facet that they understand and include in their work a knowledge of the relationship that exists between the chemo-energetic side of the art and the psycho-spiritual side. It is important to understand that members of this group do not simply believe such a relationship exists (which is the peculiar stance of the top-end of group-two individuals), but they know it exists and they understand how it works to a greater rather than lesser degree.

We might add, then, to the previous definition: (*Alchemy is the science of the working of the universal mechanism in the realm of chemistry, and the art of making practical use of that knowledge.*) ... that the depth at which any individual student of alchemy is interested in, and understands the ... *working of the universal mechanism in the realm of chemistry* ... depends on which of the former three groups he fits into.

All of this having been said, it should be understood that the direction in which the information provided in this work is headed is towards the third level, described above. All of our previous research, both collectively and individually, leads us to the firm understanding that the chemical focus of alchemy is, in its final estimate, intimately connected with the psycho-spiritual evolution of the individual alchemist.

Exactly how any particular student might need to deal with these two aspects of the art, the psychological and the laboratory, in order to reap the greatest benefits they offer, is a matter of individual requirement. My experience, though, has taught me that for the dedicated alchemist it is the manual labour that more often than not should precede the internal work. In this way a strong foundation is built before the difficult and often-treacherous passage of the inner ocean is navigated.

Having provided a definition of alchemy, the next consideration, essential to the student who intends departing from a solely theoretical study of the art in order to move into the realm of practical experience, is a motive.

The practice of laboratory alchemy does not merely provide an interesting model through which the labourer may contemplate the workings of the Universal Mechanism. In other words it is not ultimately simply an intellectual exercise that grows out of conclusions drawn from the manual labour.

“The ultimate motive for laboratory practice is to produce alchemical substances, the ingestion of which is intended to catalyse the alchemist’s psycho-spiritual emancipation.”

At the end of the day, it is this factor that makes laboratory alchemy a spiritual, or rather *initiatory*, discipline.

“While the alchemical journey must, by nature, begin in the laboratory, once the adept has begun to awaken his spiritual faculties through the ingestion of the highest order of spagyric preparations, he will realise that proper training in the esoteric (psycho-spiritual) facet of the science is now essential.”

Without this psycho-spiritual growth the student of alchemy does not develop the intellectual and emotional faculties that are essential to a deeper and proper understanding of the knowledge alchemy was designed to impart¹⁷. In this manner it is important to make the point that while I state that the ultimate aim of the lab practice is to produce substances (and forces) which aid in the enlightenment of the operator, it must be remembered that the journey to the successful production of these substances is equally important, for it provides the student with valuable knowledge about the structure and workings of nature.

¹⁷ Contrary to the more common opinion, held by uninformed occultists, that states that in order to obtain the Philosopher’s Stone one must attain a high degree of enlightenment (or spiritual maturity), the truth is the reverse. It is the Stone, and subsequently the Elixir Vitae, that provide the depth of insight the alchemist desires. This isn’t to say that a certain degree of intelligence is required in the first place in order to understand how alchemy works, and to effect its initial aims.

Chapter Five

Lab Work Introduction

This chapter is the first of the series that deals specifically with laboratory alchemy, and before we get embroiled in the details of the practical labour we should consider a few theoretic issues first.

Personal privacy. It is my strong recommendation that anyone who intends practicing lab alchemy avoid all urges to reveal his (or her) involvement to anyone. This especially means anyone local to him such as (extended) family, friends or neighbours. If the intending student has a spouse, partner or lover from whom it would be impossible (or in his mind immoral) to keep this a secret from, then I suggest talking with them about the desire to get involved in lab alchemy before doing anything else. Discuss its costs, time commitment, privacy issues and any other practical considerations with them before investing money in equipment that might be a waste because a home lab and a partner cannot share the same home. It is my experience that even in countries where lab alchemy is a perfectly legal indulgence, local law-enforcement are never impressed to discover a house full of scientific equipment and chemicals. They tend to confiscate things and get aggressive *before* asking questions. So if you intend to start experimental study it is probably best to avoid any kind of behaviour that might reveal your interest to anyone, and this can, in my long experience, demand a lot of careful thought and planning.



One very important consideration where privacy is concerned is where and when you are going to carry out experiments. Most processes that require a constant operation from start to finish, without stopping, often take many hours to complete. Equipment gets hot (and can take a long time to cool), strange smells are generated and safety precautions need to be observed. You need to assure that if you are going to start working in your kitchen, for example, until you get a better lab space, that you don't work during hours when visitors are likely to knock on your door.

There are a number of things that can make studying lab alchemy harder or easier, depending on how much you get involved in them. In the early stages the study of chemistry to a small degree can be a great help (even if only for safety reasons), as long as you avoid falling into a chemist's mind-set. I don't care what anyone says, an extreme chemist's mind-set will ruin your chances of thinking like an alchemist ... something that is essential to an understanding of the more

advanced alchemy. Later, though, when you have a thorough understanding (as opposed to simply a knowledge of) alchemy, an equally thorough knowledge of chemistry is almost indispensable to a seriously respectable grasp of the deepest levels of alchemical problems.

Reading classic alchemical literature is a good thing too, but it is *almost* entirely unnecessary. It proves in many cases to be the source of a huge amount of confusion, frustration and a lot of erroneous ideas. Any early reading of this kind that is entered into, I suggest, is done with the intention of gaining a good general feeling for the atmosphere of alchemy, and not with any serious intention of understanding ‘recipes’ or chemical technicalities. Classic alchemical literature is invariably written by adepts, for adepts, and in a species of language which, today, is virtually impossible to understand, even by experts. When you do read then I suggest that your time would be better spent reading anything and everything you can find that expounds on the concepts that fall under the heading of general Hermetic philosophy ... specifically classic Hermetic Qabala. In my opinion the thing lacking most in alchemical study is a knowledge of the basics of Hermetic philosophy – *essential* to a proper understanding of lab alchemy. In this vein no self respecting Hermetist can consider himself an alchemist unless he has read, nay *studied*, the *Corpus Hermeticum*¹⁸ for example.

Be careful what you take-on where generally accepted concepts (cliché’s) about alchemy are discussed in modern alchemical literature, or on-line, for example. The kinds of ideas that freely flow along the threads of popular discussion within the various circles of modern students of alchemy are more often infested with intellectual and experimental poison of one type or another. The wheels of modern alchemical industry are fuelled with cliché’s that have little or no basis in true Hermetic science, but often do an excellent job of masquerading as verbatim theory.

I shall also reiterate that in my experience alchemy is not simply some form of weird chemistry. It also has an esoteric-scientific component. By esoteric I mean specifically three things. (1) That learning lab alchemy properly requires learning secrets about physics and chemistry that are both unknown to modern science and are also within the realm of concepts that are rejected by present scientific theory. (2) That understanding

¹⁸ Can be found commonly online. Two versions are easily available. One by G.R.S. Mead and the other with no known author. The same volume has been published under the title *The Divine Pymander* by Yogi Press. This work is agreed by most Hermetists to contain the fundamental concepts upon which Hermetic thought is based.

alchemy requires a willingness to accept what have often been referred to (and misunderstood) as spiritual or occult concepts, but more accurately might be better described as more at home in the realm of quantum physics and esoteric psychology. (3) That a proper in-depth understanding of alchemy is not possible without an understanding of the nature of psychology (esoteric.)

“I personally believe that the motive for studying alchemy is intimately bound up with the necessity of proving that the relationships described in the previous paragraph actually exist, and that it is immoral to study or teach alchemy without taking this into serious consideration.”

This factor seriously models my behaviour towards people who display an interest in studying alchemy – this fact is worth serious contemplation if you intend eliciting help from serious, committed, traditional alchemists, for example. For example, and of specific interest, is the factor that Hermetists have long insisted that reality, as we know it, is a manifestation of the mind of the Supreme Being. In this view the laws of psychology are just as relevant as the laws of chemistry or physics in the study of natural phenomena. So, with all of that having been said, it is requisite that we continue by outlining an overview of the lab work program presented in this course of instruction.

Lab Fundamentals

Lab work is roughly divided into a series of three groups of instruction. The first group is referred to as the “Primary Series” (Prima) and concerns itself with *Herbal Alchemy*¹⁹. The main purpose of the primary series is to teach the basics of lab procedure and the fundamental theory (philosophy) of laboratory alchemy. The primary series uses the vehicle of the vegetable kingdom to teach these concepts experimentally.

The second group is referred to as the “Secondary Series” (Secunda). The secondary series of instruction concerns itself with all matters that are outside of basic herbal alchemy but do not include the more serious aspects of mineral work. This is an intermediary instruction between the herbal work and the mineral work proper²⁰.

¹⁹ Alchemical experimental method as it is applied to the vegetable kingdom.

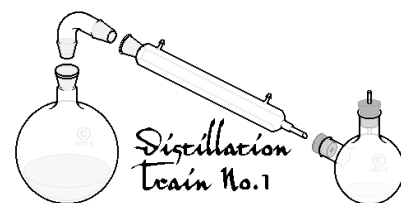
²⁰ In former times the Secunda focused mainly on animal spagyrics. But today, with increasing concern about respect for animal life this area of experimentation has *almost* completely been abandoned.

The third group, referred to as the “Tertiary series” (Tertia), focuses primarily on the Great Work (the confection of the Philosopher’s Stone and the Elixir Vitae.)

The entire series of lab instruction is composed, primarily, of a number of foundation practical experiments, interspersed in places with essential theory. In the method I teach each individual experiment is given a number such as L-01, L-02, L-03, etc, (where ‘L’ refers to ‘Lab’ experiment), which defines its proper place in the overall scheme. While the subject of laboratory alchemy covers a much broader range of experiences than those laid out here this course of instruction is designed to focus primarily on those elements which are necessary to guide the student by the most direct route to the Great Work. Therefore only those subjects are covered which, together, allow for a proper understanding of the theory and methodology required by the Great Work²¹. Nevertheless each paper, and each experiment covered, includes as part of its theory, references to research material outside of the scope of this course.

What is required to get started?

Whenever I am asked about what is necessary to an effective practice of lab alchemy, by someone who has little or no idea about alchemical lab work, I usually start by assuring them that the necessary investment is not much more than that required by a novice occultist²² who is hungrily buying good literature on his subject of interest. Any suggestions that the expense of novice lab work is great should be totally ignored. In the same vein, though, anyone who thinks they are going to get actively involved in lab alchemy without spending money on a regular basis is fooling themselves.



All of the equipment required can be brought cheaply from kitchenware shops, the supermarket, a hardware or second hand store, except, that is, for essential lab glassware.

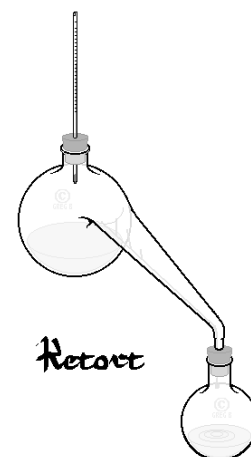
²¹ It should therefore be noted that while the instruction I give is helpful to anyone who is generally ignorant of how to begin, and who does not desire to move into the more advanced study of alchemy, the course I present here is aimed at individuals who intend approaching the advanced work and desire to as quickly as possible with the minimum of superfluous instruction.

²² The comparison is made between the occultist and the alchemist on the basis that most often it is students of general occultism who are attracted to alchemy, when such an attraction does occur.

Glassware

The basic glassware required, a retort or distillation train, can be slightly difficult to obtain in some places. Without this piece of equipment the entire process can not go forward, so my suggestion is to first put the feelers out to see if one is going to be easy or difficult to obtain, before dealing with any other lab necessities²³.

The easiest way to find lab glassware is to join alchemy e-lists and ask for recommendations as to suppliers. I have seen, regularly, glassware suppliers or glassware makers, on alchemy lists advertising their wares. After that ebay can be a good place to start. I know of one individual who has brought and sold a lot of glassware on ebay cheaply and safely. After that the next best approach is to look for suppliers online. It is quite common for students of alchemy to successfully buy chemicals and glass over the net. The method I have had most success with is simply looking through the yellow pages. I have always used one supplier who I originally found through the yellow pages, and have been happily buying glassware from him for 15 years.



So what do you buy? The choice is a personal one to start with. You want either a distillation train (which is composed of 2,3 or 4 separate pieces of glassware²⁴), or a retort (a single piece of glass.) A distillation train is often more expensive than a retort, but it is easier to buy (usually) and more efficient to use. Because it is composed of several pieces of glassware, if you break one piece it is relatively cheaper to replace that piece than to replace an entire retort, which is one single piece of glass²⁵. I personally believe it is best to own both types of distillation equipment. I have always preferred to distil alcohol in a retort, and I feel it is far more aesthetically pleasing to do so. But there is no doubt that a common distillation train is far more practical for most other types of distillation work.

²³ It is occasionally asked if the requisite distillation equipment can be homemade. The short answer is yes, but it invariably will be of inferior quality and only suitable for the more simple processes. There is little doubt that in the realm of advanced alchemy proper scientific glassware must be used.

²⁴ There are various styles of distillation train. How many separate pieces any particular one is composed of depends on what style it is. Essentially, though, they all do the same thing, and one type is not generally better than another.

²⁵ A retort proper is a single piece of glass. But it would be accurate to say a receiving flask attached to a retort, would count as a second piece. But it is not essential to buy and use a lab-ware glass receiver. A simple glass jar would work just as well for simple operations.

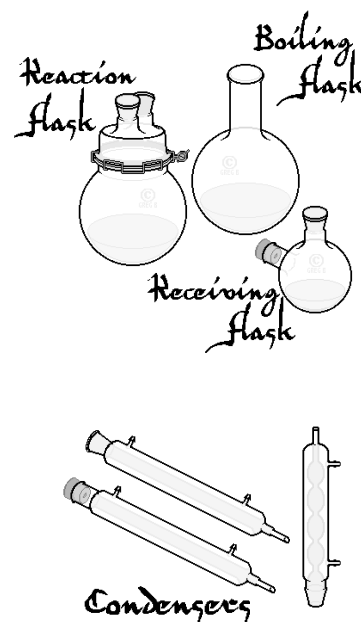
Once you decide which you prefer you should be aware that lab glassware is supplied by two different types of source (generally.) The most common source of lab glass is a scientific (glassware/chemical/equipment) supplier. More often than not you will *not* get a retort from this source, as it is an older type of equipment rarely used these days²⁶. The second source of glass is a glass blower ... technically called a lampworker. Such a person makes different lab glass equipment by buying various shapes of borosilicate²⁷ glass (bowls, balloons, tubing, etc) and welds them together with a super-hot gas torch to create either standard equipment or custom designs.

Lampworkers often work alone at home, or from a small shop. Sometimes Universities have their own lampworkers that sell to the public. In my opinion befriending a lampworker is by far the best way to get glassware reliably and safely. Big commercial glassware suppliers can often be unreliable and a major pain in the neck to deal with. They also often have the problem of only being able to supply industry standard glassware, which can sometimes be inconvenient to alchemists. Many will not sell to private individuals, only to those within the trade.

My only important recommendation about the distillation train or retort, for a beginner, is that you don't buy one with a boiling flask (or balloon) smaller than 1 litre. 2 litres is a lot more helpful, but the cost difference between 1 and 2 litres can be great. The kind of condenser one might order for a distillation train is not really important, but lieberg condensers are by far the easiest to clean, and usually the cheapest to buy.

Throughout this document pictures of various lab glassware are shown that can be used for alchemical work. It is not all required, and there are other items that aren't shown that might be preferred. But, cost being an important issue for most students, I have limited my descriptions to basic but useful equipment.

Having explained what minimal glassware is essential to begin the introductory work, lets now look at glassware in more detail. For ease of reference I have put diagrams of the more frequently used glassware in the right hand column, below. I have given all of the various items a letter or number. What follows is an explanation of each.



²⁶ Generally speaking only alchemists are interested in using retorts today.

²⁷ Borosilicate glass is heat proof glass used in scientific glassware, as opposed to soda lime glass that is used in drinking glasses and windows (for example.)

It should be first understood, though, that commercially produced lab glassware comes in various brands. Also there are variations within each brand in sizes. Of initial importance is the fact that the way in which different pieces of glassware are joined together requires explaining. The most common method is by male and female 'ground-glass' joints (the end of one piece fits inside the end of another piece.) At least one company, though, does not grind its glass joints, they simply mould them in the factory to a perfect fit. But that is of superficial concern.

The important fact about ground glass joints is that they come in different sizes and that the USA has a different size system to that used in Europe (and in Oceania.)

So it is necessary to realise that when glassware is being ordered in most cases it is necessary to state what size joints are required.

There is one other option, and that really only comes into consideration when ordering glass from a glassblower (lampworker.) Instead of ordering glassware with ground joints you can ask for plain joints. The benefit of this is in cost saving. Here, in New Zealand, a ground glass joint costs about \$10. So when ordering a \$150 distillation train set-up, as much as \$50 of that cost goes into the ground glass alone.

Plain joints might be cheaper but they do have their own issues. With plain joints two pieces of glassware must be joined using rubber corks and tubing. The downside of this is that rubber corks and tubing can't be used for work involving strong acids or other strong corrosives, or serious heat.

Item A - A Boiling Flask. Boiling flasks are used (as one might suppose) for boiling liquids in, mainly. Although they sometimes are used for the 'dry' distillation (or more accurately 'sublimation', of dry materials.)



The best type of boiling flask to use is the type with full-spherical bowls (sometimes called balloons.) There are also types that have flat bottoms. The problem with flat bottom round flasks is that their life expectancy is less than full-sphere bowls. When flasks are heated (during the boiling of liquids) the glass expands and contracts. Flat bottom flasks cannot expand and contract evenly and therefore are more susceptible to cracking or weakening. This is particularly true where high temperature use is concerned.

My advice to anyone shopping for glassware is to try and obtain a 2 Litre boiling flask to start with (note: glassware is

measured in metric sizes internationally.) A 2 Litre boiling flask is far more economical to use than anything smaller, because you can distil more liquid in them in one session. A 1 Litre flask is ok, and of course cheaper, but it probably won't last as long as it will be susceptible to more wear and tear from greater use. Anything over 2 Litres is quite a bit more expensive and you start to have issues about the practicalities of using large flasks along with other equipment.

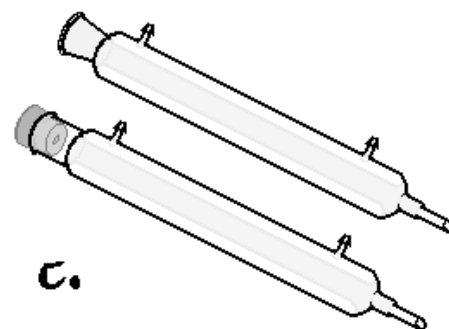
Item B - Receiving Flask (double necked.) Receiving flasks are the flasks that the liquid you are distilling drips into for storage during the act of distillation. They attach to the outlet of a retort or a condenser.



A receiving flask usually needs two necks. One neck is where the distillate drops in through. The other neck is where the pressure inside the distillation train, which builds up because of heat and gases inside the system, can escape from. The 'out' neck usually is closed with a cork, or other glass stopper, that has a small hole in it to allow pressure to escape.

The picture of the receiver to the right shows 'plain' openings in its necks, not ground glass.

Item C - The Condenser. The condenser is the third part of the distillation train. It is that piece of glassware where the gas that is boiled off the liquid in the boiling flask is cooled and turned again into liquid. Condensers have a jacket system in them where cool water is pushed in one end, and pours out the other, through plastic or rubber pipes attached at the 'in' end to a tap, and which lead from the 'out' end into a sink.



There are various kinds of condenser. Short fat ones, and long skinny ones, but the main difference with them is found in the tube that passes (usually) down their centre-inside where the distilled gas travels as it becomes liquid. A lieberg condenser has a simple straight tube for this. They are cheaper and easy to clean. Other condenser types have spirals, bubbles, spikes and ridges, all designed for the better condensation of different types of distillate, liquids, gasses and solids.

A lieberg is more than acceptable for our purposes.

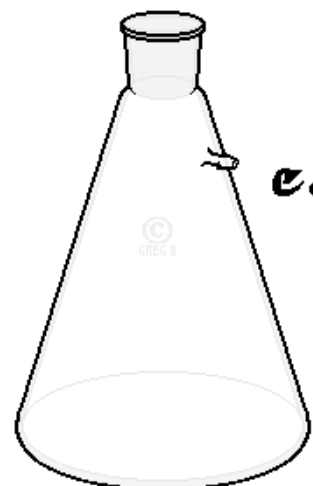
Item D1 - An Elbow Joint. An elbow joint is only required for a ground glass system. It is used to join the boiling flask on to the condenser.



Item D2 - A Thermometer Elbow Joint. This joint is an alternative to the above-mentioned plain elbow joint. The benefit of this joint is that it allows you to measure the

temperature inside the distillation system. It also allows you to pull the thermometer off during distillation and add substances to the boiling flask (although that is risky.)

Item E - Vacuum Flask. A vacuum flask is made of very thick glass and is conical-shaped. It has a small tube-nipple on the upper side of the flask. This type of flask is used usually as a receiver and a vacuum pump is attached to the nipple so that a vacuum can be pulled inside the distillation system.



Vacuums inside a closed distillation system allow for faster distillation of liquids at much, much, lower temperatures than is the norm.

Item F - Reaction Flask. A Reaction flask is like a boiling flask, but it has the added benefit that the flask splits in half. The benefit of this is twofold. First, the flask is easy to clean. Secondly, you can open the flask and retrieve from, or put in to, the flask things that normal small necked flasks won't allow. This is particularly of use with dry distillations, when the flask ends up with caked solid matter inside.



Item G - A soxhlet extractor. This is probably the most fun piece of lab glassware that a student alchemist might have in his or her lab. But it is also likely to be the most expensive. It is used specifically for extracting resins, oils, salts and essences from substances. Its primary benefit is that it can be set up and left for long periods without needing to be watched. The main problem with them is that (the cheap ones) don't allow you to extract much material in one session.

A soxhlet comes on (usually) three parts: (1) A condenser (2) The soxhlet body proper, and (3) A small boiling flask.

A solvent (e.g. alcohol) is placed in the boiling flask. A small 'sock'-like paper tube is stuffed with the substance to be extracted (e.g. a herb). The sock is put inside the soxhlet body (loaded from the top). The condenser is then put on the top. The entire thing is then held by a clamp stand so that it stands upright. The solvent is heated until it boils. As it evaporates it rises up through a side tube until it reaches the top of the soxhlet. It rises in to the condenser, turns into liquid again and drips down into the soxhlet and fills it. This means that our thimble/sock full of herb gets soaked in hot solvent. When the soxhlet is full it overflows into an outlet tube, which acts as a siphon, emptying all of the solvent in the soxhlet, back into the boiling flask, carrying with it anything it has extracted from the herb.



Each time this cycle completes the boiling flask is more full with the extracted substance.

Unless you can afford a very large soxhlet there really is no use for one as far as herbal work is concerned (except in one instance.)

But there are uses for a soxhlet in mineral alchemy. Although nothing that can't be dealt with by cheaper equipment.

Item H – Circulatory. A circulatory, or (modern) pelican, is really just a simplified soxhlet. It consists simply of a boiling flask with a condenser on top.

A circulatory is used to extract substances in such a way that it can be left alone without being watched. You can also say that a circulatory serves the same purpose as a digestion/maceration, but it is much faster and much more efficient.

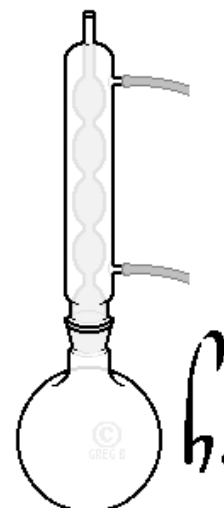
The substance to be extracted is placed in the boiling flask, a solvent is added and the condenser is put on top. When it is heated and boils the distillate cannot escape, but drips immediately back into the flask.

Note: Where glassware is concerned, for the herbal work only a distillation train is required. But if you desire to extract herb faster a circulatory can be used instead of just leaving herb in a jar to macerate. In this way in a single night the same work can be achieved in a circulatory as would take a week (or longer) in a jar-maceration.

A circulatory, of course, can be put together from the parts of a distillation train (so you kill two birds with one stone, so to speak.)

For mineral work, although a soxhlet can be of use, the only extra equipment that is required (minimal) is the type of distillation train that has multiple linked receivers (a receiver train.) That system must have ground-glass joints on the boiling flask, elbow-joint and condenser. Also, instead of lab-grade receiver flasks glass jars can be used. But, basically, this 'chain-receiver distillation system' is the only main extra expense, as far as glass goes, that someone advancing from herbal into mineral work needs to consider.

A note on cleaning glassware: cleaning can be a major hassle, especially flasks and condensers. A tip - collect a fist-full of small pebbles (about pea-size or smaller.) Put the pebbles inside the flask with some kitchen cleaning paste, the type with



scoring particles in it, and a few drops of water. If you swish the pebbles in the flask with the cleaning paste you can, with an effort, clean just about any rubbish off the inside of a flask.

Condensers are best cleaned by soaking them in a bucket of strong lye, for about a week, then washing in warm water.

So you have your main piece of glass sorted, the next thing should be storage space, and then work space. If you are going to work from your kitchen bench, and on your kitchen stove (which is not uncommon for beginners), then you need somewhere safe to store all your gear. Cupboards used for this purpose should be lockable. I found that a couple of trunks were the ideal choice. They could be locked and I could move them around easily and keep them out of sight.

Wherever you decide to work there are a number of absolutely necessary issues that need to be addressed.

- (1) You need running cold water and drainage (a sink is a good idea too.)
- (2) Bench space of at least 1.5 metres (4-5 feet).
- (3) Low sunlight.
- (4) Privacy.

Privacy is very important. There are few places, or situations, today where home labs are welcomed without concern. If someone walks in on you running a distillation train you are going to find yourself in a precarious situation. Home labs mean illegal drug manufacture in the public imagination ... and alchemy raises questions of dark occultism or questionable sanity in the minds of some people.

It is my advice, then, right from the get-go that you make your mind up that you intend working in secrecy. Then start seriously considering how this can be most effectively achieved. When I first started this meant I could only safely work late at night till the early hours, and then often only on weekends. At these times friends or strangers were less likely to come calling at my door when I had lab gear all over the kitchen table and benches and weird equipment set up over the stove emitting strange smells.

Having satisfied yourself that you have somewhere to work, and that you can work in safety and in privacy, then you can go about collecting the rest of the necessary equipment.

- (1) A mortar and pestle (any average kitchenware shop has them. Don't buy wood or marble if you can avoid it.)

- (2) Pyrex dishes (for heating and evaporating substances.)
Small bowl shaped ones and flat pie dish types are helpful. Ceramic (glazed) dishes often serve just as well here.
- (3) A funnel and filters. Plastic funnels are fine and coffee filters are quite ok.
- (4) Glass jars with lids that seal air tight. Anything 1 litre and over, and some small 250-500ml ones.
- (5) An outdoor heat source (like a BBQ or portable gas or electric stove) and a private place to use it.

Hoarding Supplementary Materials

There are a number of things, in the practice of lab alchemy, which make life a whole lot easier if you have them, and can lead to frustration (in some cases), and dropping the practice altogether, if they are not had in timely fashion.

So I will talk about these items now and give some advice on how I dealt with obtaining some of them.

It is a very good idea to be constantly on the lookout for a number of bits and pieces that have a habit of being found cheaply or for gratis, but which, sometimes, are not easily found or normally cost the earth. The following is a list of such items.

- (1) Large glass jars (the larger the better.)
- (2) Corks in general.
- (3) Large corks especially.
- (4) Rubber tubing (not plastic tubing.)
- (5) Pyrex dishes of any size from the smallest to biggest.
- (6) Glass rods.
- (7) Portable Electric heating elements (camp stoves.)
- (8) Portable Gas stoves.
- (9) Electric fry pan(s).
- (10) Small glass jars.
- (11) Clean river sand.
- (12) Acetic acid (pref' glacial acetic.)
- (13) Pieces of scrap metal (copper, tin, silver, iron, lead primarily.)
- (14) Lead, specifically.
- (15) Old iron, specifically iron cast before the 1940's.
- (16) Metal ores (any kind, but especially lead sulphide/carbonate, copper, iron, tin and antimony.)
- (17) Slacked lime (calcium carbonate.)
- (18) Potassium carbonate.
- (19) A home brew kit.
- (20) A still.

- (21) Access to a grape vine.
- (22) A wine barrel (that doesn't leak.)
- (23) A soxhlet extractor.
- (24) Good mortar and pestle.
- (25) A small portable toaster oven.
- (26) A small press.
- (27) An old glass blender.
- (28) Old cooking pots.
- (29) Aqua Regia (or nitric acid and ammonium chloride.)
- (30) A ball mill or a gem polisher.
- (31) An electric/magnetic stirrer (chem. lab type.)
- (32) Funnels.
- (33) Filter paper.
- (34) Scales (pref small weight electronic.)
- (35) pH meter.
- (36) or, pH test kit.
- (37) Crucibles.
- (38) Heating pad(s).
- (39) Thermometers.
- (40) Safety gear - glasses, rubber gloves, full-length rubber/plastic apron.
- (41) Large syringe(s).

Many of these things are not absolutely necessary (although some obviously are.) Some are a bit expensive or difficult to find, but you never know what is going to crop up over the years, cheaply or with ease.

You can never have enough glass jars, especially ones with good sealable lids. Large glass jars (and I mean bigger than a gallon) are always a big help, often hard to find and often very expensive to buy new (or, for that matter, second hand.) Especially wide necked large glass jars, which are the ideal prize.

You can never have enough corks, both rubber and natural cork, of all sizes.

An old electric fry pan is a huge bonus. Filled with sand they make excellent incubators (when run at minimum temp'.)

Thermometers are always a help, and I often have more than one in use at once. The big long ones that home brewers use are best.

Things like Aqua Regia are only of help to those who have moved to advanced alchemy. It is a problem to get, a hassle to store (sometimes), and dangerous to use. But if you intend moving into advanced alchemy, and you find a way of

obtaining some safely, it is a real help. The same goes for nitric acid, sulphuric acid and hydrochloric acid.

A good mortar, made of something solid and of a good size can be expensive. But often you come across cheap ones. Marble ones are very common and cheap, but I advise not buying one because marble is relatively soft and wears down when used as a mortar regularly.

Lab Pyrex dishes for evaporating or heating liquids and solutions used to be quite expensive. But these days there are numerous cheap types you can buy at kitchenware stores. The small ones make good makeshift crucibles; the large flat pie dishes make excellent sublimation dishes and evaporating dishes. I probably go through about 2-3 a year (break them), so I am always on the lookout for replacement ones. A cheap supply is best because they often end up in being ruined.

Although it is legal, I believe, to brew wine at home in many countries, it is only legal to distil it in a few countries. Here in NZ both are legal. So it is really easy to get excellent homebrew stills here. But the ability to brew wine and distil its alcohol can be a great help, both practically and educationally.

Lead. If you are considering moving into the advanced work lead is a must. Ore is good but the pure metal is far better. To make it worth your while when attacking the advanced mineral work you will need to hunt down at least 15kg of lead. I buy it in ingots from scrap dealers at about nz\$1.00 kg.

Old cooking pots come in use to melt it when the time comes. Old frying pans (especially cast iron ones), are excellent for calcining (or roasting) minerals and ores.

Alternatively, and additionally, old iron is a good one to find. By old I mean older than 60 years. Modern iron is mistreated in the smelter so it is virtually useless. But old iron still has copious quantities of the three Principals. Sometimes you can find it at old building sites, industrial ruins, in the form of pipe railings, bolts, support metal, etc. You can tell really good old iron because when it rusts it delaminates and goes flaky, like flake pastry.

Silver is a bit harder to find, but old cutlery is the easiest form, often. Tin is getting harder to find in the US I understand, but here it is everywhere in tin cans for food.

You can never have enough filter-quality paper. Ash-less filter paper is the best.

Large syringes (the huge kind) come in really handy for siphoning off liquids.

Clean river sand is best for sand baths and sand-bed incubators.

Most of the rest of the material listed should be self-explanatory. I have often found that a desire to obtain items, and a vigilant attitude towards finding them, will attract them to you. Second hand shops, school fairs and hardware stores are all good places to hang out. Sometimes you will see things at school fairs (for example) which are cheap and you immediately realise you can adapt to good use. Ebay is another good place to search for cheap equipment.

Chemicals are always a hassle to afford and to find a good supplier for. But I have found supplies in such weird places as antique shops though.

Another good item to look for is storage boxes. Equipment, especially chemicals, should be stored in lockable chests or such-like. Myself, because I had the tools available, made a number of wooden chests with shelves and partitions inside to store my glassware and to store digesting jars of different substances. I can pack these things in the chests with shredded paper and they can be stored away safely for months or years, or transported safely with ease.

It is also a good idea to accumulate sticky labels and note books. Label everything. After years of practicing alchemy I have had to throw out many jars of interesting stuff because I had forgotten what was in them (for lack of a label.) Get into good label habits - date, contents, and use for the contained substance. Note everything you do in a journal. Not only the details of experiments but the contents of jars. Date everything.

Once all if these things are covered you need to consider whether you are going to brew the alcohol you will need, or whether you are going to go the easy (and less learned) path of simply distilling alcohol from beverage spirits. If you're going to brew it yourself you need to study up on wine making and get a wine kit together. If the distil-beverage option is yours then, for your first experiment, you need to buy enough spirits to allow you to obtain about 2 litres of pure alcohol. Brandy is best, wine is good but an expensive option (usually), and the likes of vodka come in at the end of the line.

The last consideration you must make is the herb you are going to use for your first experiments. Fresh herb is best (of course), but dried can work if its not past its use-by date. For learning purposes grass off your lawn is just as good as expensive or

rare medicinal herb. But if you want something in the middle ground somewhere I suggest sourcing a healthy natural supply of a medicinal plant (such as lavender, mint, lemon balm, dandelion, sage, etc, etc), or grow your own (the best choice by far.) Fruits are quite usable and easy to get relatively cheaply. You will require at least 3-kilos (1 pound) dry weight.

Once all of these considerations are filled, you are ready to start the first manual operation.

Astrology

Since the earliest times astrology has formed a part of the alchemical tradition. Astrological language, albeit often in very basic form, appears in all of the earliest surviving alchemical texts. The question arises, though, exactly what is the role astrology plays in alchemical practice, and is it necessary?

In general it is assumed and accepted that alchemists involved in the lab tradition require a good knowledge of natal astrology²⁸, in order to accurately calculate the best times to carry out certain chemical operations. This idea goes as far as suggesting (and sometimes insisting), that certain lab-alchemical operations or conditions won't work or be obtained unless the correct astrological conditions are observed.

The reality is more complicated (or more simple, depending on your point of view.) While astrological language does appear in many classic (and ancient) alchemical texts, no firm doctrine (or proof) exists in alchemical tradition that defines how astrology might be used to calculate specific chemical events. So few descriptions of the use of astrology in calculating times for carrying out lab processes exist that one has to question just what role was supposed to be played by astrology in alchemy.

Such questioning obviously happened in all ages of alchemical development because right from the beginning there have been alchemists who swore by its necessity as well as those who never used it.

My teacher used astrology judiciously in the practice of alchemy, so as a consequence the study of astrology formed a major part of my apprenticeship. Subsequently I studied it for about 5 years under a professional astrologer, and from that knowledge I have formed the following opinions and established the following observations...

²⁸ Natal astrology: the kind used to calculate the best time to carry out important events (in alchemy.)

Anyone who has studied astrology, as a discipline, will quickly be struck by the enormous degree of flexibility that exists in its practice. On the surface astrology sells itself as being a very accurate mathematical discipline. But the reality is that there are several methods, of calculating astrological conditions, that are an integral part of accepted astrological practice. No consistent opinion, let alone rules, about which is the more accurate, or which is unreliable, exists.

Indeed the degree of flexibility in calculating astrological 'charts' is so wide that given the same natal data from which to begin the plotting of a chart two different astrologers, using two different accepted methods of calculation will come up with results that can be so divergent as to be literally contradictory.

If we apply this factual situation to alchemy, and any attempt at trying to decide when the best time is to carry out any particular laboratory process, how on earth are we to decide which method of calculating astrological influences to use in order to be accurate?

In order to answer this question with any degree of scientific accuracy (remembering that alchemy is a science, not a process of luck and guesswork), we would need 100s of alchemists who knew 'exactly' the right way to complete one specific work (which allegedly relies on astrological accuracy), and for them to repeat the process several times over long periods of time (years), in order to know if astrology plays a role in success or not.

Since we know for a fact that in the entire 3000+ years that alchemy has been practiced only a couple of 100 individual alchemists knew enough about alchemy to succeed in important techniques, (and a limited number of them used or knew astrology), we immediately begin to see how improbable it is that such a question would ever be answered ... or, more importantly, could ever have been answered, in the past.

We must accept, in trying to grasp the size of this question, the fact that following an astrological path in alchemy, and then succeeding in a work, is no proof that the correct astrological influences were responsible for the success. By the same token, if we carry out a work and fail, how can we be sure (considering that faults in practical technique and theoretical understanding are so common) that that failure was due to the wrong (or a lack of) astrological calculation? This is an important factor to consider because it is quite common for students of alchemy to blame failure on an inaccurate astrological calculation (or lack of the necessary astrological conditions), rather than on an error in practice or theory.

On top of this we have to think to ourselves, if astrology as a practice is so 'flexible', how can it be that success in alchemy allegedly relies on it so much? Especially when it is virtually impossible for a single alchemist to either stumble upon, or work out, the only true accurate way to perform astrological calculations. Surely, amongst those alchemists who never observed astrological conditions, some succeeded? My answer to that is ... they almost certainly did.

So the question begs asking ... why did the ancient alchemists, and the alchemists of the classic ages, speak of astrology, or use astrological language in their writings?

The answer to that riddle lies in a study of the philosophic side of astrology, and in simple, common, sidereal astrology.

Philosophic, or esoteric, astrology has to do with knowledge of certain occult or esoteric ideas that are represented by, or which show forth in, the field of astrology. Things like, for example, the symbolic ideas that the planets stand for, the symbolic ideas that are represented by the signs of the zodiac, and the relationships that are shown in astrology between the Elements and the Principals ... rather than in natal astrology (calculating and predicting events.)

Sidereal astrology (as opposed to tropical astrology used commonly in western countries) is based on the actual real-time motions of the celestial bodies. In other words such things as the seasons, day and night and the influence of the moon are undoubtedly dynamics that have a role in laboratory alchemy. While some of these things may not be absolutely necessary observations (because modern technology or enough money negates their use), they can be of help under certain conditions.

So what does all of this mean in practical, simple, terms to someone who wants to practice alchemy?

Firstly it means that if we want to understand some of the ideas expressed in classic alchemical literature a certain amount of familiarity with basic astrology is necessary.

Next, it is commonly believed that, for example, specifically with herbal alchemy, that astrology is an unavoidable part of the process. Plants are given astrological (mostly planetary) attributions, and we are told, commonly, that we should choose certain plants to work on in alchemy, or prepare them for others, based on astrological considerations. (see Albertus' book for specific references.) A similar situation exists where the ingestion of metallic oils is concerned.

In my experience astrology either plays very little or no part, at all, in these considerations, or, because we are in no position, today, to know what "accurate astrology" is, we must continue on a path of practice that is productive (educational) without having to involve astrological calculation.

What this means in the case of herbal alchemy, unfortunately, is that for all intents and purposes the prima or herbal work really is of not much more help to us than to serve as a model or teaching tool. Any attempt to use it as a form of therapy (Herbalism) takes us into the twisty road that is the highly questionable area of herbal medicine.

It should be noted though that I fully accept, and understand, that for anyone who has a personal connection with Herbalism, or has years of successful practice in that area, the above assessment does not really apply to them. But for the student of alchemy who has no 'click' for Herbalism, and who desires to strive for the lofty summits of alchemical practice, any attempt at trying to work out how to use herbal spagyric tinctures as a form of medicine is going to prove a big distraction.

So my advice is, read up on basic astrology. Even learn how to cast a natal chart if you have the inclination. But don't get involved in trying to work out how astrology is used to calculate alchemical operations if such a study is going to prove a big distraction from the main goal of alchemical study.

My personal experience in the lab shows that the use of astrology, and practice without it (taking accurate theory and practical manipulation into consideration) makes no difference at all.

Attitude

It is essentially important to approach the study and the discussion of lab alchemy in a scientific manner. Alchemy is a science not a religion.

This means that it is necessary to take care in how you frame your words when presenting ideas. Opinions for which no experimental proof, no matter how old or traditional they seem to be, must be *described* as personal opinion. Theories, likewise, no matter how old or traditional it is assumed they are must be labelled as theories, as long as no experimental proof exists to support them.

Where experiment is concerned, the discussion of work done by someone else should always be made clear is second hand

information. Personal experience should be claimed as such, and supporting lab notes should be offered where appropriate, as evidence that good practice and acceptable reasoning exists.

Alchemy has been hampered for centuries by the presentation of concepts (philosophy), and of seemingly accurate practical instruction, that are either outright fabrication, deliberate deception, or presented as experimental fact when they are actually nothing more than opinion. This situation creates a situation for the novice that results in a huge waste of time, money and energy, and hampers the accomplishment of reasonable headway in the study of fundamentals and in the development of advanced understanding.

It is therefore important, in my humble opinion, that each student play his part in reducing the confusion, the exhaustion of resources and the perpetuation of misinformation that makes the study of alchemy so much more difficult.

In aid to this approach to personal (and group) experiment it is absolutely important for students to learn and implement good experimental practice and good record keeping. A lab diary should be meticulously kept, recording dates, weather conditions and the aims of each individual experiment. Jars, flasks and containers should be carefully labelled and cross-referenced to diary notes. Clean and orderly working conditions should be adhered to, weights, measures, temperatures and other conditions carefully noted and accurately recorded.

In my opinion anyone who desires to discuss practical lab alchemy and puts themselves in a position where they cannot present their experiences in a manner where good reasoning and accurate records are not available to them (even if they decide for prudence sake to withhold details from public circulation), has little value to both the tradition itself, or to other students in general.

An unsubstantiated argument, in many cases, is as good as no argument at all to a serious student.

At the same time, every student who has reasonable and developing experience in practical alchemy, and who desires to share their experience, should give a lot of consideration to just how much they should say – both in public and privately. It is important, I feel, to sort out in your own mind just how much respect one should give to the traditional ideal of silence, and to the increasing need to add to the alchemical communities available tried and accurate base of knowledge.

Over the years my personal ideas about how I would deal with communicating my experience and my opinions have changed a lot. But at no time did I ever feel that it was either ok, or advisable, to speak freely about everything. At the same time I have always abhorred the kind of communication, which is all too common, which is overly cryptic ... and the type of cryptic communication that the presenter knows leads to misinterpretation and to the assumption that he knows more than he actually does. In my opinion if someone is going to talk about sensitive material, they should define the boundaries they are willing to go to and then within those boundaries be specific and as clear as they can.

Because I feel that a certain amount of secrecy is necessary about what alchemy can provide, and how far one has gone in ones personal search, I am a strong supporter of the establishment of private research groups. Within these kinds of private set ups there is more scope for the deeper discussion of information that should stay out of the public realm. Let's face it, far more progress can be gained when there is a forum for free discussion than where one is restricted to study in complete or near complete isolation.

Getting Started

First some background. Alchemy is a universal process. It is a mechanism inherent in nature and this mechanism can be found operating in every department of nature. An analogy which might help to understand the relationship between alchemy (as a universal mechanism) and the departments of nature it resides in is to consider that (generally speaking) all organic life forms have a digestive system ... digestion is a mechanism which performs a function necessary to organic life, yes? The alchemical process, or mechanism, has a similar place in life ... it resides in all things, systems, conditions and processes. No thing can exist, from thought to subatomic particles, through molecules to blue whales or planets, without the alchemic mechanism regulating their birth, maintenance of life, their death and rebirth. Because of this fact it would be easy to imagine that we could find examples of the alchemic mechanism working in the three primary kingdoms - animal, vegetable and mineral.

If we spagyrically dissect any entity from either of the three kingdoms we will find there the various pieces of the machinery of the alchemic mechanism, just as if we were dismantling a clock in order to obtain its cogs, wheels and springs, etc.

While it is true that examples of such dissections (in and of the three kingdoms) exist in many classic alchemic texts, it probably was Frater Albertus who first openly and clearly defined the proper progress for teaching a novice in the art of alchemy was to begin with the vegetable (herbal) work, continue to the animal work and finish with the mineral work. The idea here is that the herbal work is the easiest to learn, to understand and to carry out. The other two works are increasingly more difficult to practice and to understand.

Frater Albertus also defined (again, probably for the first time publicly) what constituted a beginning to each of these works and a completion or mastery of them. In the herbal work he suggested that we should start with experiments on the herbal 'simple' (a basic spagyric herbal tincture) and mastery of the herbal kingdom could be claimed when we had successfully completed a herbal 'stone' ... the highest vibratory species (expression) of the herbal kingdom.

Work in each of the three kingdoms always, philosophically (i.e. ideally) begins with *putrefaction*.

There is a saying that goes something like this...

"Our great work begins in darkness and death
and ends in the light."

If you are partial to reading alchemical literature you will see variations of this statement repeated many times. What it means is that in experimental alchemy we start by effecting a deliberate *philosophic*²⁹ death of the subject we are working on. This idea needs some explaining because it is often overlooked, and its understanding holds an important key to knowledge of the later work.

A "common" death of any living thing is death by natural causes ... accident, disease, etc, etc, where the subject is left exposed to natural conditions to decompose naturally. It is important to understand that death is not only that part of the process where consciousness evacuates the subject; it also includes the important process of decay (decomposition or putrefaction.) A philosophic death (as opposed to one which happens under natural conditions) is a death that is deliberately carried out under special controlled conditions. In the case of natural death the three philosophic principals (mercury-spirit, sulphur-soul and salt-body) separate under the force of putrefaction - both physically and on a non-physical level.

²⁹ Here the term 'philosophic' refers to a manipulation that is not common. A technique understood by a philosopher (in the classic esoteric sense) not a modern scientist.

Once they separate through decomposition their composite parts retire to their own level of nature and are not able to be reconstituted (preserved as their original whole.) In the case of a philosophic death the decomposition of the *principals* is controlled in such a way that the spirit, soul and body of the subject are not allowed to be lost (irreparably dis-integrated.)

If we consider that the physical manifestation of the principals (which tradition has referred to as mercury, sulphur and salt) *always* serve as vehicles for their non-physical counterparts (spirit, soul and the forces which integrate the physical body/matrix - body), then a serious contemplation of the information in the previous paragraph will reveal some very curious knowledge.