

JAMES HILLMAN

ALCHEMICAL  
PSYCHOLOGY



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## Author's Preface

The following pages were written for different occasions and, except for Chapters 2, 5, and 6, were delivered as lectures. I called the early attempt to present my way of grasping this material, in the 1960s at the C.G. Jung Institute in Zurich, “Alchemical Opus/Analytical Work.” My intention then as now is to give psychoanalysis another method for imagining its ideas and procedures by showing how alchemy bears directly on psychological life, more clinically immediate and less spiritually progressivist.

Lectures in New York City and notes for semester courses to university students in 1968 (Chicago), 1973 (Yale), 1975 (Syracuse), and 1979 (Dallas) expanded the sources and the insights they prompted, which are compacted where relevant into these chapters.

All along my work has derived from the extraordinary scholarly achievements of C.G. Jung who opened the field to psychological understanding. Tho' following his footsteps, I have worn my own shoes, that is I try to abjure a grand narrative that encompasses alchemy within an explanatory theory, such as Jung's conjunction of opposites and the realization of the Self, eschewing the temptation to give meaning by translation into universal symbols and noble metaphysics. Instead, I have tried to obey one of Jung's own principles, “stick to the image” – to the colors, the chemicals, the vessels, the fire – images of the sensate imagination as it presents states of soul. “Stick to the image” recovers the ancient Greek maxim, “save the phenomena” (*sozein ta phainomena*), and the phenomena of alchemy present a chaos. “Every other science and art is closely reasoned,” says a basic text attributed to Bonus of Ferrara, [\[1\]](#) “the different propositions follow each other in their logical order; and each assertion is explained and demonstrated by what has gone before. But in the books of our Sages the only method that prevails is that of chaos; there is everywhere studied obscurity of expression; and all the writers seem to begin, not with the first principles, but with that which is quite strange and unknown to the students. The consequence is that one seems to flounder along through these works, with only here and there a glimmering of light ...”

Obscurity of expression is natural to the psyche. Prime example, our dreams; mere glimmerings. Saving the psyche's phenomena calls for an alchemical method of chaos, a method which indulges the soul's surprising beauty and inventive freedom, and speaks both of the psyche with psychology and to the psyche with imagination.

In preparing this book I received help from and am grateful to Mary Helen Sullivan, the late Gerald Burns, Stanton Marlan for valuable suggestions and keeping me at the task, and Klaus Ottmann for his intelligence, taste, and labor.

*... upon this simple system of many colors is based the manifold and infinitely varied investigation of all things.*

– Zosimos of Panopolis (ca. 250 CE)

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[1](#) Bonus, 113–14. Who “Bonus” was, where and when he lived remain uncertain. Cf. J. Ferguson, *Bibliotheca Chemica*, 2 vols. (Glasgow: James Maclehose and Sons, 1906), 1:115.

## *The Therapeutic Value of Alchemical Language: A Heated Introduction*

Jung's alchemical work has been relevant for analytical psychology in two main ways. I shall be suggesting a third way.

The first way has been excellently presented by David Holt in his lecture on “Jung and Marx.” [1] There Holt shows that Jung imagined his work to be theoretically and historically substantiated by alchemy, and that Jung spent a great part of his mature years working out, in his own words, “an alchemical basis for depth psychology,” [2] particularly the opus of psychological transformation. As Holt indicates, it is to alchemy we must turn to gain the proper placing of Jung's entire endeavor. We need alchemy to understand our theory.

The second way has been profoundly elucidated by Robert Grinnell in his book *Alchemy in a Modern Woman*. [3] There Grinnell demonstrates the incontrovertible parallels between the psychic processes in a modern Italian patient and those that go on in the alchemical opus. Where Holt stresses alchemical *theory* as background, Grinnell stresses alchemical phenomenology in *practice*. We see from Grinnell the continuity or archetypality of alchemical thematics in case-work. Thus, to work with the psyche at its most fundamental levels, we must imagine it as did the alchemists, for they and we are both engaged with similar processes showing themselves in similar imagery. We need alchemy to understand our patients.

The third angle, which I shall now essay, has to do with alchemical language. In brief I want to make this one point: Besides the general theory of alchemical transformation and besides the particular parallels of alchemical imagery with the individuation process, it is *alchemical language* that may be most valuable for Jungian therapy. Alchemical language is a mode of therapy; it is itself therapeutic.

To talk about therapy, we must first talk about neurosis, and here I follow Jung's general theory that neurosis is a “one-sided development of personality” (CW 16:257), which I take to mean the unavoidable one-sided development of consciousness *per se*. I read Jung to mean that neurosis resides in the patterns of our conscious personality organization, in the habitual way we go about our days. Whatever we do here requires repression somewhere else: I do because I repress or I repress because I do. As Jung's own formulation states: “One-sidedness is an unavoidable and necessary characteristic of the directed process, for direction implies one-sidedness” (CW 8:138). Neurosis can be cognitive, conative, or affective, introverted or extraverted, for we can be one-sided in any direction of personality.

Jung's is a beautifully limiting idea of neurosis, keeping it to what some might call “ego-psychology.” I wouldn't, couldn't, call it such for reasons we shall come to; but at least Jung's idea of one-sidedness keeps neurosis from complicated explanations in terms of socio-adaptive processes, developmental historicisms, intropsychic dynamisms, biofeedback mechanisms, and other jabberwockies. Neurosis is located right in one's conscious framework (CW 16:12). I am neurotic because of what goes on here and now, as I stand and look and talk, rather than what went on once, or goes in society, or in my dreams, fantasies, emotions, memories, symptoms. My neurosis resides in my mental set and the way it constructs the world and behaves in it.

Now, the essential or at least an essential component of every mental set, of every personality, is language. Thus language must be an essential component of my neurosis. If I am neurotic, I am neurotic in language. Consequently, the one-sidedness that characterizes all neuroses in general is also to be found specifically as a one-sidedness in language.

An important implication of this I will merely brush in passing. This implication is: to discover the specifics of any neurosis, I must examine the specifics of the language essential to it, the styles of speech in which the neurosis is couched. Jung began on this path with his studies in word association; Charles Osgood's semantic differential and George Kelly's psychology of personal constructs could take us into further detail and practicality.

There is much to learn in regard to the rhetorics of the neuroses. For we psychologists listen to the style of speech and not only to the contents of that speech, and to the tone and body of its voice. Archetypal psychology has already begun to examine the language, especially the rhetorical styles of manifest speech, whether in the hour, in dream reports, or written works, and within words themselves. But all this we leave aside today.

The main implication of the proposition that the one-sidedness of neurosis occurs essentially in the one-sidedness of language will lead us directly to the goal of this introduction. To get there quickly let me clear the ground in a hop, skip, and jump. The hop: since language is largely social, the one-sidedness of *my* language reflects society's collective language. Then, the skip: Jung has already defined collective language as "directed" ("directed process," "directed thinking" [CW 5, chap. 2]), and I have attacked it in various places under its guises of "nominalism," "rationalism," "psychological language," "Apollonic consciousness," and "day-world concepts." Last, the jump: conceptual language, which is nominalistic and thus denies substance and faith in its words, is the usual rhetorical style of "ego," especially the psychologist's "ego," and is the chronic locus of our collective neurosis as it appears in language.

You see that I am claiming, as have Freud and Jung in other ways, a general Western cultural neurosis of one-sidedness. However, I am locating this in our directed-process language, which is *directed from within* (for, after all, who or what directs our directed thinking?) by its inherent syntactical, grammatical, and conceptual structures resulting in conceptual rationalism. *Horrible dictu*, this neurosis is reinforced by the academic training we must each have to become members of the psychotherapeutic profession. By conceptual rationalism I mean writings such as this that account for events in concept-terms rather than thing-words, image-words, craft-words, and also I mean our habitual use of identity verbs (such as "is"), which unconsciously substantiate the very terms we consciously assert to be only nomina. Hence we hypostasize our hypotheses. A rift develops between theory and practice, even a theoretical delusion about practice. Like Jung, we assert our conceptual statements are only heuristic; but because of language we cannot avoid, in practice, substantiating what our theory asserts is only heuristic, only hypothetical. We simply are caught in the literalism of our own language.

We speak in concepts: the ego and the unconscious; libido, energy, and drive; opposites, regression, feeling-function, compensation, transference. When working with these terms we curiously forget that they are concepts only, barely useful for grasping psychic events, which they inadequately describe. Moreover, we tend to neglect that these concepts burden our work because they come freighted with their own unconscious history.

Not only, then, as Jung says, are psychological concepts "irrelevant in theory," but, as he also says, the psychologist "must rid himself of the common notion that the name *explains* the psychic fact it denotes" (CW 8:223–25). Yet we psychologists imagine these concept terms to be thing words, for as Jung continues: "Psychology ... is still afflicted with a ... mentality in which no distinction is made between words and things." What is this mentality, this affliction?

Is Jung speaking of literalism, that one-sidedness of mind that experiences only singleness of language? In such a consciousness, there is no “as if” between the word and whatever it is conceiving. Then the subjects in our sentences become existing subjects and the objects become objectively real facts. Then such concepts as the ego, the unconscious, the feeling-function, the transference become literally real things. Substantives become substances. So much so that we consider these concepts able to account for personality and its neuroses, whereas I am arguing that these very same substantialized concept terms – ego, unconscious, transference – *are* the neurosis.

As Freud began by deliteralizing the memory of sexual trauma into its fantasy, and as Jung began by deliteralizing incest and libido, we need to deliteralize a host of other substantialized concepts, beginning with “the ego” and “the unconscious.” I have personally never met either of them, except in a psychology book.

Enter alchemy – thing-words, image-words, craft-words. The five supposed sources of alchemy are each a technology. Each is a handwork physically grappling with sensate materials: (1) Metallurgy and Jewelry: mining, heating, smelting, forging, annealing; (2) Cloth and Fiber Dyeing: dipping, coloring, drying; (3) Embalming the Dead: dismembering, evacuating, infusing, preserving; (4) Perfumery and Cosmetics: grinding, mixing, distilling, diluting, evaporating; (5) Pharmacy: distinguishing, tincturing, measuring, dissolving, desiccating, pulverizing. To these traditional sources must be added food preparation and conservation, the daily acts of transforming raw materials into tasty and nourishing edibles.

To a mind that has not severed conceptual denotations from metaphorical inference, all these activities with the hands and senses carried meanings about nature, life, death, and the soul. A smith had to know how to manage fire and regulate heat; a pharmacist must make mixtures in the right proportion, else a remedy could kill rather than cure. (The very word *pharmakon* means both poison and remedy.)

The basic stuffs of personality – salt, sulfur, mercury, and lead – are concrete materials; the description of soul, *aqua pinguis* or *aqua ardens*, as well as words for states of soul, such as *albedo* and *nigredo*, incorporate events that one can touch and see. The work of soulmaking requires corrosive acids, heavy earths, ascending birds; there are sweating kings, dogs and bitches, stench, urine, and blood. How like the language of our dreams and unlike the language into which we interpret the dreams. When alchemy speaks of degrees of heat, it does not use numbers. Rather, it refers to the heat of horse dung, the heat of sand, the heat of metal touching fire. These heats differ, moreover, not only in degree but also in quality: heat can be slow and gentle, or moist and heavy, or sudden and sharp. As well, the heat of horse dung imparts to the heated material properties of horse dung itself. Heat is not abstracted from the body that gives it.

The words for alchemical vessels – the shapes of soul in which our personality is being worked – contrast with the concepts we use, concepts such as inner space or internal object, or fantasy, or patience, containment, suppression or relationship. Alchemy presents an array of different qualities of vessel, different fragilities, visibilities, and forms: condensing coils, multiheaded alembics, pelicans, cucurbits, flat open pans. One uses copper or glass or clay to hold one's stuff and cook it.

Finally, the words for the operations – that which one does in crafting the psyche – are again concrete. We learn to evaporate away the vaporousness, to calcine so as to burn passions down to dry essences. We learn about condensing and congealing cloudy conditions so as to get hard clear drops from them. We learn about coagulating and fixing, about dissolving and putrefying, about mortifying and blackening.

Compare these craft words of alchemy with the words used for the operations of psychotherapy: analyzing the transference, regressing in the service of the ego, developing the inferior function, managing anger, syntonic identifying, showing hostility; improving, denying, resisting, identifying

... Not only is this language abstract, it is imprecise. Because of this imprecision in our equipment, our concepts for grasping the movements of the soul, we have come to believe the soul itself is an ungraspable flux, whereas actually the psyche presents itself always in very specific behaviors, experiences and sensuous images.

Before Jung's thought had been touched by alchemy, he raised doubts about the sensuous language that alchemy so relishes. In 1921 he writes in his *Psychological Types*:

The rational functions are, by their nature, incapable of creating symbols, since they produce only a rational product necessarily restricted to a single meaning, which forbids it from also embracing its opposite. The sensuous functions are equally unfitted to create symbols, because, from the very nature of the object, they are also confined to single meanings which comprehend only themselves and neglect the other.<sup>[4]</sup>

I read him to be claiming that sensuous perception is as one-sided as conceptual understanding, therewith implying that sensate language clings to its referents (alchemy's concrete stuffs and operations) so that no further connotations emerge. Here, I believe, Jung is confusing the concrete with the literal.

Alchemy took Jung away from the systematic rationalism of the *Types*. We can see now, as Holt quoted, how necessary alchemy was for providing a basis for his depth psychology because alchemy leaves unilateral literalism completely. No term means only one thing. Every alchemical phenomenon is both material and psychological at the same time, else alchemy could not claim to be salvific of both the human soul and material nature. It is all metaphor ("symbolic" in Jung's 1921 sense of that word). All analogy. All a *poiesis* of the hand.

Our minds still retain this alchemical propensity for transferring technology into psychology. Psychotherapeutic slang betrays how we truly imagine long before the profession arrives at sophisticated concepts. The language of handwork, of technical grappling, now emerges from the car repair shop. There, in that garage, metaphors abound for our psychic life: realignments, tune-ups, tightening the brakes, refilling the tank so as not to run out of gas, never stalling, never misfiring, and never going flat.

Ever since Jung opened the door to alchemy for psychologists, we have tended to go through it in only one direction: We apply our directed thinking to its fantasy thinking, translating its images into our concepts. White Queen and Red King have become feminine and masculine principles; their incestuous sexual intercourse has become the union of opposites; the freakish hermaphrodite and uniped, the golden head with silver hair, red within the black without – these have all become paradoxical representations of the goal, examples of androgyny symbols of the Self. You see what happens: sensate image disappears into concept, precision into generality. Even the peculiar images of the *Rosarium Philosophorum* (CW 16) which call for perplexed contemplation are asked instead to serve as a handbook for a general psychology of transference.

We could go through the door differently. We might try translating the other way – the actualities of psychotherapy and the language we use to conceive those actualities put into imaginatively precise alchemical words: thing words, image words, craft words. Grinnell's book does just this – and so, conceptually addicted minds find it hard to read, heavy. It is hard and heavy precisely because it speaks in the concrete words of the *opus*.

We could also not go through the door at all. For if we see through the concepts to begin with, we do not need translations. Then we would speak to the dreams and of the dreams as the dreams themselves speak. (By "dream" here I mean as well the dream, or fantasy, within behavior.) This seems to me to follow Jung's dictum of dreaming the myth along. To do this we must speak dreamingly, imagistically – and materially.

I have introduced "materially" at this juncture because we are close to the crunch, and the crunch of

alchemy is matter. It is the crunch of our practice too – to make soul *matter* to the patient, to transform his/her sense of what matters.

Holt, following Jung, has shown that alchemy is essentially a theory of the redemption of the physical, of matter. If so, then this redemptive process must also take place in our speech, where the absence of matter is most severe, and especially because this deprivation is so close that it is unconscious to us even as we speak. We can hardly expect therapy – so dependent upon speech – to work on this massive curse of Western consciousness, our tortures over matter, if the tool with which we work, our speech, has not itself resolved the curse. Our speech itself can redeem matter if, on the one hand, it de-literalizes (de-substantiates) our concepts, distinguishing between words and things, and if, on the other hand, it re-materializes our concepts, giving them body, sense, and weight. We already do this inadvertently when we speak of what the patient brings as “material,” look for the “grounds” of his/her complaint, and also by trying to make “sense” of it all.

Re-enter alchemy. Its beauty lies just in its materialized language which we can never take literally. I know I am not composed of sulfur and salt, buried in horse dung, putrefying or congealing, turning white or green or yellow, encircled by a tail-biting serpent, rising on wings. And yet I am! I cannot take any of this literally, even if it is all accurate, descriptively true. Even while the words are concrete, material, physical, it is a patent mistake to take them literally. Alchemy gives us a language of substance which cannot be taken substantively, concrete expressions which are not literal.

*This is its therapeutic effect:* it forces metaphor upon us. We are carried by the language into an as-if, into both the materialization of the psyche and the psychization of matter as we utter our words.

Alchemical texts are monstrously arcane. They are compacted with entangled layers of references and analogies. It seems deliberately cultish, supposedly to hide its secrets from the common mind and dogmatic authorities. But there is a more profound, *psychological*, intention behind alchemy's obscurantism.

The sages did not give a name to any of their things nor compare them with anything unless there is an aspect which requires the contemplation of the observer about it and his thinking it over ... They did not coin examples or descriptions except in order to point by them to their hidden stone. They did not coin them for fun or for amusement.[\[5\]](#)

The language itself has a psychological effect:

Man's language consequently must strain to capture the density of meaning [“the hidden stone”] conveyed by the signs. It is this very fact which makes Paracelsian texts themselves difficult to interpret. Their fantastic vocabulary is not designed to define unique, singular characteristics of phenomena; rather, it is constructed to reveal as many depths of meaning as possible – their words are intended to reverberate in the imagination with meanings.[\[6\]](#)

Conceptual language, however, is not self-evidently metaphor.[\[7\]](#) It is too contemporary to be transparent; we are living right in its midst. Its myth is going on all about us, so it does not have a metaphorical sense built in it. I do now know, cannot see, that I am really not composed of an ego and self, a feeling function and a power drive, castration anxiety and depressive positions. These seem literally real to me, despite the experience that even as I use these terms, there is a haunting worthlessness about them. Nominalism [\[8\]](#) has made us disbelieve in all words – what's in a name? – they are mere “words,” tools, any others would do as well; they have no substance.

But our psychological language has become literally real to us, despite nominalism, because the psyche needs to demonize and personify, which in language becomes the need to substantiate. The psyche animates the material world it inhabits. Language is part of this animating activity (e.g., onomatopoeic speech with which language is supposed to have “begun”). Unless my language meets the need to substantiate, then the psyche substantiates anyway, unawares, hardening my concepts into physical or metaphysical things.

May I insist that I am not proposing to cancel our concepts and restore the archaic neologisms of alchemy as a new *esperanto* for our practice and our dealings with one another. That would be to take alchemical language only literally. I do *not* mean: let us start off now talking alchemy; I mean first let us talk *as alchemists, as if we were talking alchemically*. Then we can talk alchemy, even the old mad terms, because then we will not be using them as literal substitutions for our concepts, employing them as a new set of categories. It is not the literal return to alchemy that is necessary but a restoration of the alchemical mode of imagining. For in that mode we restore matter to our speech – and that, after all, is our aim: the restoration of imaginative matter, not of literal alchemy.

I said that the one-sidedness of neurosis perpetuates in our psychological language, its conceptual rationalism. One-sidedness – that general definition of neurosis – now becomes more precise. It can now be seen to refer to the grasping nature of our grasping tools, our concepts, which organize the psyche according to their shape. Our concepts extend their grasp over the concretely vivid images by abstracting (literally, “drawing away”) their matter. We no longer see the clay funeral urn or the iron pot-bellied stove, but “the Great Mother”; no longer the sea just beyond the harbor, the sewer blocked with muck, or a dark pathless forest, but “the Unconscious.”

How can we have faith in what we do if our words in which we do it are disembodied of substance? Here again I join Grinnell and Holt who take faith to be the key to the entire psychological and alchemical opus. But I would locate this faith in the words that express, operate, *are* this endeavor. Again: abstract concepts, psychological nomina, that do not matter and bear weight, willy-nilly accrete ever more hardening, leaden immobility and fixation, becoming objects or idols of faith rather than living carriers of it. When we talk psychology, we cannot help but become adamantly metaphysical because the physical imagination has been emptied out of our words.

According to Jung, neurosis is splitting, and therapy is joining. If our conceptual language splits by abstracting matter from image and speaking only from one side, then the as-if of metaphor is itself psychotherapy because it keeps two or more levels distinct – whether words and things, events and meanings, connotations and denotations – joining them together in the word itself. As the *coniunctio* is an imaged metaphor, so metaphors are the spoken *coniunctio*.

Especially, our one-sided language splits immaterial psyche from soulless matter. Our concepts have so defined these words that we forget that matter is a concept “in the mind,” a psychic fantasy, and that soul is our living experience amid things and bodies “in the world.”

As Jung grew older, he became ever more occupied with this particular split – matter and soul, attempting to join them with ever fresh formulations: psychoid, synchronicity, *unus mundus*. Even if defined as embracing both sides and even if presented ambiguously and symbolically, these words (unlike, for instance, the alchemists’ own “soft stone,” “hermaphrodite,” or “Royal Wedding in the Sea of the Indians”) only reinforce the splitting effect inherent in such one-sided language itself. For they too are concepts, without body or image. Thus psychology remains neurotic: we describe a nominalistic psyche without matter (and therefore fantasy and image do not “really” matter, are “only” in the mind or must magically connect to matter in synchronicity), and a de-souled matter that seeks redemption through body therapies, consumer hedonism, and Marxism.

We end with a cultural statement about neurosis and its therapy, similar to ones made by Freud and by Jung. Our neurosis and our culture are inseparable. After political doublespeak, spin, jargonism, and Pentagonese, after sociological and economic scientism and media management of speech, and all the other abuses – even those of Lacan and Heidegger and communications theory performed in the very name of language – that have drained words of their blood, brought into our day a new syndrome, childhood mutism, and made us in psychology lose faith in the power of words so that therapy must turn to cries and gestures: after all this I am passionately urging a mode of recuperating language by returning to speech that matters. I am also harkening back to Confucius who insisted that

the therapy of culture begins with the rectification of language. Alchemy offers this rectification.

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- 1** D. Holt, “Jung and Marx: Alchemy, Christianity, and the Work Against Nature” (lecture given at the Royal Society of Medicine, London, 21 November 1974, under the auspices of the Analytical Psychology Club, London), [http://davidholtonline.com/articles/1151738827\\_Holt\\_Marx\\_Alchemy.pdf](http://davidholtonline.com/articles/1151738827_Holt_Marx_Alchemy.pdf) (accessed February 2, 2009).
- 2** “My encounter with alchemy was decisive for me, as it provided me with the historical basis which I had hitherto lacked,” *MDR*, 200.
- 3** *Alchemy in a Modern Woman: A Study in the Contrasexual Archetype* (Zurich: Spring Publications, 1973). See also his “Alchemy and Analytical Psychology,” in *Methods of Treatment in Analytical Psychology*, ed. I.F. Baker (Fellbach-Oeffingen: Adolf Bonz Verlag, 1980).
- 4** C.G. Jung, *Psychological Types or The Psychology of Individuation*, trans. H.G. Baynes (New York, Pantheon, 1923), 141–42.
- 5** Muhammad Ibn Umail, *Book of the Explanations of the Symbols (Kitāb Ḥall ar-Rumūz)*, Corpus Alchemicum Arabicum, vol. 1, ed. T. Abt, W. Madelung, T. Hofmeier, trans. S. Fuad (Zurich: Living Human Heritage Publications, 2003), 73.
- 6** O. Hannaway, *The Chemists and the Word: The Didactic Origins of Chemistry* (Baltimore: The Johns Hopkins Univ. Press, 1975), 61.
- 7** “Every modern language, with its thousands of abstract terms and its nuances of meaning and association, is apparently, from beginning to end, but an unconscionable tissue of dead, or petrified, metaphors.” O. Barfield, *Poetic Diction: A Study in Meaning* (Middletown, Conn.: Wesleyan Univ. Press, 1984), 63.
- 8** Cf. the discussion of Nominalism in my *Re-Visioning Psychology* (New York: Harper and Row, 1975), 5–8.

# 2

## *Rudiments*

### I. FIRE

*Fire of all things is the judge and ravisher.*  
– Heraclitus

*Would you know the perfect Master? It is he who understands the regulation of the fire, and its degrees. Nothing will prove to you so formidable an impediment as ignorance of the regimen – of heat and fire.*  
– Thomas Norton

Desire is not enough; in fact, ignorant desire frustrates itself or burns itself away. For desire to be consummated, for the *opus* to come to fruition – in art, in love, in practice of any sort – learn all you can about its fire: its radiance, its flickering instability, its warmth, and its rage. Fire as element below and above the range of human reason requires a “psychoanalysis of fire” – the very title of Bachelard’s exemplary study. [1] The art of the fire and the key to alchemy means learning how to warm, excite, enthuse, ignite, inspire the material at hand, which is also the state of one’s nature so as to activate it further into a different state.

Of course, the laboratory, the stove, the curcubits and alembics, the co-workers are imaginary figments as well as materialized phenomena. You are the laboratory; you are the vessel and the stuff going through the cooking. [2] So, too, the fire is an invisible heat, a psychic heat that clamors for fuel, breathing room, and regular loving consideration. How to build the heat that can dry up the soggy, soggy dew, melt the leaden oppressions, and distill a few precious drops of intoxicating clarity?

In Greece, in the Asklepiian temples where “patients” went to find healing by dreaming, they incubated for a period of time devoting themselves to focused brooding and right procedures in order to be blessed by a beneficent dream. In the Bible, Jonah, abandoned by his shipmates, had to remain for a time in the belly of a great whale sunk in the depths of the sea. In that darkness he generated heat, lost his hair. Solitary confinement; utter internality. This is the *Nekyia*, [3] the night sea journey through the underworld made also by Odysseus, Aeneas, and Hercules, and by Eurydice, Inanna, Persephone, Psyche, by Orpheus, by Christ. Whether this underworld is frigid and ghastly or burning with the hots of hell, it is a realm characterized by temperatures suitable only for demons, ghosts, heroes and heroines, goddesses and shades who are no longer altogether of the upper world. Outsiders. Marginals. Alchemy is a profession of marginals; those at the edge. Those who live from their own fires, sweating it out, self-sustaining their own temperatures which may be at variance with the collective climate. *Tapas*: the ardor of internal heat. In India the sage sits in the Himalayan snow and with his own body heat melts a place to be, contained by his own containment.

Nature’s fire is both celestial, descending from sun and stars and lightening, and arising from the earth out of thermal springs, gases, geysers and volcanoes. The alchemist works with both kinds, those coming from beyond into the human sphere, the flashes and fevers, explosive manias and star-struck blindings, as well as the interior culinary fires, the metabolic heats of the body that stew and digest and melt the loins in lust. “The greater the spiritual stature of a person, the greater the sexual

passion,” says the Talmud (*Tract. Sukkah*). As fire licks and clings to the logs it burns, so passion clings to the bodies of life. “The Clinging” describes the trigram of the second daughter of the *I Ching*. Like the claws of a cat, the paws of a lion, sulfuric fire attaches to the object of its desire or attaches itself to its desire. Intense internal heat as the moment of fertility. The bitch is in heat: “*Solo aestu libidinis*,” the heat alone of the libido releases Mithras from the stone.

If alchemy is the art of fire, and alchemists, “artists of fire,” as many texts repeat, then the alchemist must be able to “know” all the kinds of fire, degrees of fire, sources of fire, fuels of fire. And, the alchemist must be able to fight fire with fire, using his own fire to operate upon the fires with which he is operating. Working the fire by means of fire. Nature works on nature. Alchemy, an art of nature, a natural art that raises the temperatures of nature. “Nature’s time is extremely long, and the fashion of her concoction uniform, and her fire very slow. That of Art, on the other hand, is short; the heating is controlled by the wit of the artist, as the fire also is made intenser or milder.” [4]

Where science measures heat with degrees of temperature, alchemy observes the different kinds of heat, the qualities of fire. Heat increases as the work proceeds, rising through four classic stages. “Each of these is twice as great as the preceding,” says Mylius. [5] Different texts describe the four with different images but the following occur frequently: a brooding hen, [6] slow and mild as of the flesh; the sun in June; great and strong calcining fire; burning and vehement; able to melt lead or fuse iron. Another lists the four as water bath, ash bath, sand bath, and naked flame. Ruland’s *Dictionary* fills out the four stages with rich descriptions. [7] “The first grade is very slow, and it is like an inactive lukewarmness; it is called the heat of a tepid bath, of excrement, of digestion, of circulation ... likened to the warmth generated by a fowl when hatching its young.” Evidently this fire is generated by brooding, digesting and holding within the lower body, its fermenting bowels and silent womb. Attitudes are lukewarm, diffident. Slowness and the restraint of activity all by themselves are able to develop heat.

“The second grade is fiercer, yet such that it is safe to touch, nor does it injure the hand. They call it the heat of ashes ... Cinders on account of their fineness do not produce much air.” Chapter 9, below, discusses the role of air; here we can note that this second stage is fed very little fuel. It has little inspiration, no heavy breathing. Instead a stifling dullness, dusty, ashen, dried out. “I kept nothing of myself but the ashes.” [8] “Ash on an old man’s sleeve / Is all the ash the burnt roses leave.” [9] This heat can be touched, handled, coming perhaps from sifting residues, a heat rising from the warmth of reminiscences, “mixing memory and desire.” [10] Read Eliot, Proust; read Akhmatova: the fierce heat of fine ashes, unstirred by the breezes of fantasy.

Why fierce? Because ash is the ultimate reduction, the bare soul, the last truth, all else dissolved. “The ash is all,” said Zosimos of Panopolis, [11] the “first alchemist,” the discipline’s patron authority. The *Rosarium Philosophorum* (CW 16) says ash “endures,” and Muhammad Ibn Umail, the tenth-century Arab alchemist known to the Latin West as Zadith Senior, writes in his *Tabula Chemica*: “Burnt ash and the soul are the gold of the wise.” Fierce? Because we are roasted in our own base nature.

“The third grade will burn the hand, and is compared to boiling sand or iron filings.” Desiccation, a condition of soul known in the Middle Ages as *siccitas*, *acedia*, the dry depression of the soul forced by willful resolve to do its duty. The iron of Mars, angry. The time in the endless desert under a relentless sun. This fire “will burn the hand,” so it cannot be handled. It is out of your hands. If the first stage was held in the body and the second in memory, this is the heat of desperate determination, an isolating anger that drives the work ever more hotly.

“The fourth is the highest grade, and is generally the most destructive ... a living flame is produced from wood or coals.” Bernardus of Treviso says the fourth is “in iron, or in the flame.” [12] Besides the obvious association of iron and flame with the smith and the forge, there is a warrior-of-the-spirit

implication in the third and fourth degrees. The desert saint, ascetics; “it is death to soul to become moist,” said Heraclitus, for whom Fire was the primal principle. All the soul’s stickiness is up in flames, vanished into thin air, and the smoky, oily, smelly worldliness of sulfuric desires have been purified. It is a change from “ordinary” sulfur to “clear-burning sulfur (*ignis clare ardens*) or “extinguished fire” (*ignis extinctus*), “Sulfur deprived of its virtue.” [13]

The two hottest fires are intended for the operation called calcination: “The reduction of bodies into Calx by burning.” [14] Calx = “any powder reduced by the separation of superfluous moisture.” [15] Reduction of confusion to an essence, of moisture or a solid to “a fine powder,” [16] of misty remembrances to a poignant image, of a stubborn blockage to lightweight fantasy. Epitome = Epiphany. The essential realization. Moments in memory or a weave of sensations (odors, tastes) debrided of personal associations, leaving but a calx, an objective correlative of the overdetermined issue. No long-winded account of circumstances, only the hot core. No causality. No context or conditions. The truth of what is because of only what is – unalloyed. Utter reduction through heat. “Your material can be cooked only in its own blood,” say the texts.

These powders work on other bodies as catalysts and activators, entering into compounds, absorbed and disappearing. Or, like a powdery pigment which, when touched by a living drop of moisture (a pang of grief, a freset of lust, a flush of hope), can color an entire scene. The alchemist works with these essences, this treated, cooked, conquered nature, not with nature in the raw. The calcined body is the body that has been through the fire, a twice-born body, a subtle body, no longer attached to what it once was and so can become wholly absorbed by the work.

Heat measured in numbers on a thermometer has no palpable qualities, only higher and lower, more or less. Two-dimensional. Heat qualified by a brooding hen, melting lead, by seasons, ashes brings the operator’s imagination directly into relation with the fire. Moreover, these heats particularize the fire. Warmth given by a bath feels different from warmth radiating from glowing coals much as the heat from a desert wind differs from jungle humidity. The source of the heat qualifies the heat, carries over into the heat its virtues of ash, water, dung, flame. When alchemy uses terms for fire such as “Persian fire” (*ignis persicus*) (“an Ulcer torturing with a fiery heat” [17]), “belly of the horse” (*venter equi*), or “fire of the lion” (*ignis leonis*), it stimulates the careful attention to images, a practice similar to careful scientific observation of the thermometer. Poetic terms take the measure of imagination.

Figulus judges degrees of heat by the hand. [18] “The first degree is that which permits of the hand being held to it ... A second degree is that which permits the hand being held to the fire but a short time.” Notice that it is the fire that “permits.” Fire is the agent, the master of the work. Knowledge of this master must come firsthand; it is not learned from books or lectures on desire. The good cook has burnt a dish or two, and her hand as well. We learn heat from chefs, smiths, potters, embalmers, from curing tobacco, smoking hams and fish, baking pizza, drying tea, fermenting beer, distilling bourbon. Boiling sugar alone requires a subtle language of many shadings, consistencies, degrees.

The hand-knowledge of intensities applies to other disciplines. Like writing: leave the chapter on the desk untouched for three days. Pick it up again only to find it has congealed like cold mutton. The boxer lays off roadwork awhile and his legs lose their dance in the ring. The patient comes to analysis only every two weeks, takes a month off, so the heat never builds and the sessions become sluggish, trivial, diffident.

We can be misled by turning the pages of the old alchemy tracts with woodcuts or the many detailed depictions by the Flemish painter David Teniers the Younger (1610–90) of the alchemist at work, that the fire is external to him. No; the alchemist brings his own caloric participation; he is with the fire, in the fire. That old man in the laboratory concocting solutions with his apparatus, kneeling by the fire, is the old man in the mind, his hands in the furnace of his own body, sweating over the

transformation of his own nature – our own acids and sulfurs, our own putrefications, our own bitter salts.

### *Fire of the Gods*

Fire as an infant ever hungry, fire as a child quickly growing, young and blazing, fire as a virgin ever-renewable. Hearth as womb, cradle, embracing the center around which the *opus* circumambulates. We are back with Hestia [19] who sat in the middle of the ancient house, of the King's palace, of the town hall – not as a statue or personified figure, but simply as the fire in the hearth. Just that. Hestian fire asks for care-taking. She is a domesticating fire of culture; a severe restriction of passion; a quiet yet fierce warmth of attentiveness. This fire is the mystery of focused consciousness itself. Hestia came first in the declination of divine hierarchy in prayers, and sometimes in processions, because before all else comes the ability to attend, to be aware. We see the dark and into the dark by grace of her light. Task-mistress, disciplinarian, pure intention, dignity – such are the demands she places on the worker in fire, and alchemy is threaded through with this sort of stern advice.

Other gods, other fires. Or, rather as the master mythographer Karl Kerényi said of polytheism, not many different worlds but the same world styled according with a variety of divinities. Thus alchemists are also children of Hephaestus because their ancestry goes back to smiths and their forges; and children of his wife, Aphrodite, because of their ancestry in the arts of jewelry, perfumery, cosmetics and the coloring of cloth; and of Ares/Mars, her paramour, because of the red fiery heat whose emblems in alchemical shorthand were sword, arrow, knife, lance, instruments that pierce and slay and bring about separations; and of Hermes because of the subtle transformations and secret formulations, the sleight-of-hand manipulations, the mercantile impetus and mountebank pretensions; of old Saturn because the arduous work begins in lead and ends in lead, said Michael Meier, a *via longissima*, a labor of fire-tending fueling, ash-hauling, sleeplessly watching; or of Hades because of its language of cruelties and a heat that putrefies as well as the hell-fire of dried-out death [20] and because of alchemy's origins in embalming and the supposed Egyptian source for the root word *khem* = black, this “black art,” as it was called, which like Hades operates in hiding, away from daily human sight.

Yet among all these it is the fire of Hestia, and of Venus/Aphrodite, that draws us to the work with both duty and love, and a sensual pleasure in colors, smells and textures of the mixtures. Alchemy as a passion, a devotion, a *bhakti* yoga. “The fire is the love fire, the life that flows forth from the Divine Venus ... the fire of Mars is too choleric, too sharp, and too fierce ... ” [21]

Many gods and goddesses, including references to Diana/Artemis and the moon; Zeus's thunderbolts; Eros; the wine and dismemberment of Dionysus. But one figure whom we moderns think of first with fire, Prometheus, is missing! Prometheus does not belong in the alchemical *devotio*, and the work must always be on guard against the “promethean sin,” stealing the fire for human use. According to Plato, Prometheus stole fire from Hephaestus, (Aeschylus says from Zeus; Hesiod, from the sun). Plato's version suggests a basic clarification. [22] Hephaestus works with fire for the sake of the work; love, says Plato, prompts him. Prometheus wants the fire for the “good of mankind.” The first is aesthetic, even religious; the second ideological. But then Prometheus was a Titan and a dominant of the Industrial Age's titanic capitalism, nationalism and ideological humanism, and the final mutation of alchemy into chemistry (see Chapter 9 below).

### *Hastening Nature*

Since nature has its own heat and works slowly at its own improvement, the alchemist's fire intends mainly to aid nature's own efforts. "Nature's own efforts" – that gives the clue to the misappropriation of fire by Prometheus and by alchemists who sought actual gold and actual cure. Jung recognizes the Promethean sin as it appears in Christianity, although he does not make the link back to the Greek myth. There is a "parting of the ways," writes Jung, between the Christian opus and the alchemical. The alchemist "may play a part in the *perfectio*, which brings him health, riches, illumination and salvation; but ... since he is not the one to be redeemed, he is more concerned to perfect the substance than himself." [23]

The furthest alchemical vision goes beyond the human; it would redeem nature, achieve its perfection, and fire is the means to this end. As one of the four elements that grounds the being of the cosmos, fire belongs not even to the gods. No more may fire be stolen and put to human use than may earth, air and water be appropriated for the benefit of one species alone. The Promethean impulse, and as it became human-centered Christianity, is hardly environmental. Any student of alchemy, any borrower of its tropes for one's own art or practice, doing the work for one's own nature, remains Promethean, a secular humanist, a gold digger.

If alchemy stands behind the natural processes going on in deep psychotherapy, as Jung has shown, and also in the arts, then these activities must also have an aim beyond Prometheus. Soul-making of the individual or even of the collective still remain human. Deep psychotherapy is obliged like alchemy to be focused on "perfecting the substance," not the subject, else it remains morally at fault, like Prometheus for stealing from the gods, and practitioners of therapy will find themselves chained to a rock of dogmatic person-centered humanism.

How do we conceive this service of nature? How does the alchemical paradigm enliven a practice, an art, so that the practice, the art, serves nature? Quite simply: by recognizing the stuffs and tools, the places and constructions having each their enlivening spirits; by recognizing the *w* – that all things are ensouled, with their own intentions, their own habits and pleasures. Treating things with regard for their properties. Alchemy is animism. Materials entrust themselves to us for their improvement. Nothing may be used without their willing cooperation.

By treating the materials as ensouled, by invoking the spirits of the metals and speaking of their emotional qualities, alchemy found gods in nature, and soul, or animation, in the physical world. The devotion to alchemy was not quite a branch of then-contemporary humanism; less the study of human works of culture and language than a focus upon the non-human mystery of things, their innate potentials, their liveliness. All the pious counsels and moral admonitions, which fill the texts, seem laid on to counter the dehumanizing, perhaps demonic, experimentation with that which lies outside human measure. Today's science, investigating similar inhuman powers, omits similar moral counterweights.

Fire produces and permits differing effects on different substances on different occasions. St. Augustine notes that fire blackens wood yet whitens stone, producing contrary effects on materials that are more akin than contrary. [24] Each thing heats in its own style. Know your fire, but know your material as well. For instance: A husband and wife are akin, a couple. They consider entering the vessel of therapy and turning up the heat on their difficulties. The fire may whiten her, yet blacken him or *vice versa*, and they come out as contraries.

When we hasten nature by applying heat, we adapt the heat to the qualities of the substance. Even more, the heat we apply externally by fire must aim at kindling and reinforcing the *calor inclusus* within the substance. Amount and kind of heat are determined by the stuff we are working with. Not too much, not too little. Dosage. Therefore, the hastening of nature has no formula, no clear foreknowledge of hours, days, years. "How long will it take?" asks the patient of the doctor, the singer of his coach, the novelist of his schedule to get this outline into submissable shape.

Bonus of Ferrara replies: “The time required for the whole work is stated by Rasis to be one year. Rosinus fixes it at nine months; others at seven, others at forty, yet others at eighty days. Still, we know that as the hatching of a chicken is always accomplished in the same period, so a certain number of days or months, and no more, must be required for this work. The difficulty connected with the time also involves the secret of the fire, which is the greatest mystery of the Art.” [25]

A more subtle passage compares the *opus* with an embryo that requires nine months to mature, each trimester ruled by an element. [26] First the *opus* is nourished by water, then by air, and finally by fire. The transition from water to air, from flooding and dissolving to drying and distance is familiar enough to artisans in any work of concentration. Then, the work is “quickened by fire.” It lives on its own. The desire or impetus that has impelled the work exhausts itself, all intentions, expectations, ambitions burnt out in the sheer passion of the doing.

## II. FUEL: CHARCOAL AND AIR

In the woodlands and forests of old Europe and still today in parts of Central Asia and Africa, and in Brazil, Japan, India and China the charcoal workers gather their sticks and branches for manufacturing the fuel that was essential to alchemy. [27] The Roman naturalist Pliny the Elder (23–79 CE) laid out carefully the sorts of wood that make the best charcoal and for what particular purposes. Fir, he wrote, takes the bellows better; less smoldering so it suits smiths at their forges. For iron, charcoal of chestnut; for silver, pine.

To an alchemical mind, the purest fire will be fueled with the purest substance. You get from the fire only what the fire is fed. Charcoal is the most desirable fuel because its matter has already been purified. Or died. That is why it is black and so light in weight. All superfluities have been burnt out. It has been through the fire, a twice-born fuel, first as natural wood, then as the essence of that wood. Charcoal: an *opus contra naturam*. Also, charcoal signals in its lifetime the colors of the alchemical *opus*: black lumps, white ash, yellow flame, red coals. Most mysterious: even the origin of the English word is unknown.

Born in fire and dying in fire, charcoal is fire’s devoté. The selfless servant, dried of moisture, with no desires of its own for transformations. Therefore it serves so well as cleanser, absorber, purifier, letting other stuffs pass through its porous body without participation. Neither reagent nor catalyst, charcoal is the fuel that does not interfere, a giver of energy asking nothing for itself in return. This is the quality of energy that fuels the *opus*.

Even lighter than charcoal is the air on which fire depends. It is the primary fuel, given by the gods as evidenced by the fire of lightning. Pictures of alchemists at their ovens and stoves and smiths at their hearths often show a servant called a “puffer” working a bellows, maintaining the fire by a steady stream of air. There are Egyptian images of these puffers working the bellows as early as 1450 BCE. [28] From indigenous blow-pipe and primitive bellows of animal skin to the blast furnace in ironworks, fire uses air to intensify the heat. To kill a fire, cut off its air.

What is this “air,” and how to manage it? Right at the beginning of Western thought about nature and the cosmos, Anaximenes of Miletus (sixth century BCE) proposed an elemental air to be the founding stuff of the cosmos. The idea of an invisible, transparent element that rarefies and condenses and on which fire and light depend, on which, in fact, all life depends, continued to perplex human thinking with theories of ether, phlogiston, aerial angels and winged demons, celestial powers and flying machines, vapors and ghosts, the soul as breath – until the chemical analysis of air during the Enlightenment by Priestley and Lavoisier and the discovery of oxygen (see below, Chapter 9). Fascination with air and imaginative inspiration drawn from it continues in the marvelous treatises by Bachelard on the poetics of air and by David Abram on language, air, and the *ruach* or divine breath.

The character of elemental air also comes from medical and psychological astrology, where air is one of the four foundational elements composing the cosmos. Early texts of psychology presented in the symbolics of astrology teach that air provides fire with coolness, even as air increases its heat; with detachment so that a fire does not burn itself out; with jets of wit, lofty thoughts and mobility of direction, even as it blindly rages. Also, air feeds fire with mental invisibilities, with spirit and a farther, wider vision. A steady stream of narrowed attention quickens the inert charcoal, bringing forth warmth and light.

Fire actually burns air, the flicker of the flame is the same oxygen that we combust. As we live, we are burning, consuming the wind, thereby generating the *calor inclusus* that sustains our days. Our death is expiration, the windbag emptied, the fire out. The act of breathing is our first participation in the cosmos, circulating in our intimate interiority. Fire lives on mind, and the sustaining heat of our warm-bloodedness depends on inspiration, on fantastic invention, breezy wit and windy rhetoric, on brain-storming, rarefied theories and cool ideas. The mind, a blast-furnace. A breath-soul of inflating words must be continuously fed into the work. The alchemist with his puffer and bellows sucks into his project inspiration from the *nous* of the world, the archetypal mind that moves like the wind around the whole earth. From its four quarters, the life-breath of traditional thought pumps up the work. And so we find the alchemists referring ever and again to other texts, inhaling the thoughts of other doctors of the Art and announcing this dependence as a maxim, “one book opens another,” much as painters read philosophers, composers look at architecture, philosophers visit museums, poets translate from distant and dead languages – their fires desperate for fresh currents. For the fire must have words; and the writers whose life is air – Keats, Stevenson, Lawrence – die young of consumption; not burnt out, burned up.

### III. METALS

Although alchemy moved from forge to laboratory, working with metals was not left behind. The elemental metals – iron, lead, copper, mercury, tin, or antimony – entered into the compounds, adding their natures to the concocted product. Each of the major metals corresponds with one of the seven planetary bodies that influence the soul by means of their exhalations, the *pneuma*, breath or inspiration, that give specific qualities to the work.

The Doctrine of Correspondence – “as above, so below” – means more than symbolization on earth of the planets in heaven. Correspondence: “congruence; friendly intercourse; mutual adaptation; connection; letter-writing.” It means keeping in touch with, receiving messages from. Things on earth, especially the metals in the earth, are in touch with the gods; they bear mythical messages. There is a spirit in the iron, in the lead, a *spiritus rector*, a guiding principle that teaches the artisan. Lead instructs slowness; copper, quick warmth; mercury, ungraspability and fusibility.

This spirit in the metal, its subtle body, and its shadow, rather than the mineral as such, becomes the focus of alchemy. Thus, the alchemical work with metals is called the “sophistication of the metals.” The alchemist tries to release specific qualities from the metal. As a refiner attempts to release the metal from its ore, so the alchemist tries to realize a quality in the metal – the passionate vigor in iron, say, so that the Stone (that goal of the work) be strong, penetrating, purposeful. At the same time, alchemy warns against possession by the very spirit it is seeking, a possession that can have the artisan stuck in the shadow of iron: rigid, martial, burdened, and rusting.

The process is both one of *refining*, by releasing essence from dross, and of *transmutation*, by improving the grade of the metal from lowest to highest, from lead and iron to silver and gold, because the metals themselves are filled with a desire to return to the higher condition from which they have fallen. In each metal is the slumbering wish to transmute to a nobler state. [29] Refining and

sophistication aim for purity, a silver that is “sterling,” a gold that is 24 carats. Purity: the least possible extraneous admixtures. Purity: entirely self-same. The refined metal is unadulterated; the sophisticated metal has been reduced to its essential qualities. Refinement and sophistication through discipline.

Iron imposes its discipline. Enter the forge of rage, melt, and coagulate, submit to the hammer and harden, be plunged again and again into the fire and the cooling bath. These rigors resonate with the angers of Mars and his choleric temperament, the impatience, the toughness, the imperviousness to malleability, and the need to keep dry from rust.

The Venusian discipline of copper works toward a more sophisticated essence by separating out – drying up, burning away – collective idealizations, traditional constraints, and sentimental overtones, so as to achieve copper’s essential beauty shown by the metal’s subtle patina of surface. (Venus as goddess of the skin of things – their feel, their shine.)

In Greek, *metalleia* refers to an underground channel or mine; *metalleuontes* is one who searches for metals, a miner; and *metallao* means to search, inquire. A play on words adds a further significance: *metlasso* means to change, alter – perhaps the metals take pleasure in their alterations and enjoy the discipline imposed upon them by extracting their ore-bodies and the smelting. As one book leads to another in alchemical inquiry, so, says Pliny the Elder, one vein leads to another.

The adept provoked by the metal becomes a prospector, exploring deep in the psyche’s elemental core for the foundational substances that underlie the surface behavior of things. It is as if the planetary gods in their metallic hideouts push the depths to search further, ever gaining more and more essential knowledge and technical ability from what the metals afford. They become the teachers, the mentors.

The inherent perfectibility of the substances urges all things away from the literal, undifferentiated, and only natural as given or found. The “only natural” may be necessary, but it is insufficient, since the metals themselves ask to be sophisticated. The given soul asks to be worked. In its natural found state the soul is innocent, ignorant, and therefore dangerous. That the material itself asks to be refined, the raw wanting to be cooked, suggests an archetypal basis for the ideas of perfectibility, progress, and as well, evolution.

The primary material condition of a substance conceals its essential nature. It does not even know itself, seeming merely a symptom without worth. The adept works to discover the value in what appears as dull ore or discard slag. His labors move the material from its first or primary presentation to a moment of revelation when it becomes psychologically intelligible. The practitioner seeks not only to free the metal from its dross but to free the meanings of the metal, their linkages with the intelligibility of the cosmos. To the alchemist, the world is signed by the gods and we learn to read their signatures and gain the significance afforded by each thing.

Assumed here is the inherent intelligibility of the world. This innate knowledge does not reside in God’s omniscient mind, but is immanent in the world of things, giving to each its specific value and allowing it to be understood. By reading the world as animals do, we adapt to it and can better aid it on its way toward its aims. Alchemy was not merely gold-making for the benefit of the alchemist and his patron. Within the labor was the vision to bring the world itself into a golden age, fulfilling *its* desire for perfection, a soul-making of the world itself.

Nature is constantly at work toward this end. Its own *calor inclusus* or innate heat slowly transmutes the stubbornly resisting primary matter. The alchemist, however, by ingeniously intensifying the heat, could hasten nature’s own aims. In his laboratory and at his stove the adept believed he could bring to fruition in a lifetime, or sooner, what nature by itself takes centuries to accomplish.

Although the work is always stated as an *opus contra naturam* (a work against nature), it was of course a following of nature, guided by nature, instructed by the book of nature which the alchemist

diligently studied. Thus the best statement for summarizing the alchemical attitude is from Ostances, whom Jung cites frequently: “Nature rejoices in nature: nature subdues nature: nature rules over nature.” [30]

### *Resistance*

Nature subdues nature by means of fire. Heat dissolves the cohesion of a substance; that natural desire to hold to itself as it is. Heat separates the metal from the ore body and can calcine the metal into a more workable condition. In the only-natural state, the substances resist change. They intend to stay as they are and have been for millions of eons, buried and hidden away. Yet the innate urge toward perfectibility welcomes the fire. Hence, they rejoice also in their submission, allowing themselves to be smelted, hammered, and extracted from their home ground.

Resistance of any thing is given with its essential nature. “The power or endeavor, wherewith each thing endeavors to persist in its own being, is nothing else but the given or actual essence of the thing in question,” wrote Spinoza. [31] Resistance in the work and to the work is not personal but ontological. Being does not move, said Parmenides, to which Heraclitus replied, all things move. Two differing ontologies. Ontological ambivalence. Ostances’s maxim accounts for the inherent ambivalence in the metals and all through the alchemical art. Ostances’s maxim sophisticates the idea of ambivalence itself. Nature does enjoy its natural state and resists change, yet it also struggles against its predeliction for stasis, subduing itself and making change possible. Nature sophisticates itself, dividing its ambivalence into two aspects – the unchanging and the changing. It is therefore folly to attempt to change the unchanging. Or as the alchemists say: “You cannot make a milk-cow out of a mouse.”

What changes and what does not change? What stays the same and what becomes different? In philosophical terms, the existence changes, but the essence remains unalterable. The natural body of the metal may become a liquid, a powder, a vapor; it can combine, shift colors, submit to the effects of other substances. The subtle body, however, persists in its own self-same unalterability.

It takes heat to subdue the innate resistance of a substance, a heat gentle enough to melt the stubborn and fierce enough to prevent regression to the original state. Only when the regression to the original “found” condition – the substance in its symptomatic presentation – is no longer possible, only when it has been thoroughly cooked and has truly separated itself from its historical and habitual mode of being can an alteration be said to have been accomplished. Then the substance, which psychology might call a complex, becomes less autonomous and more malleable and fusible, having lost its independence as an intractable object that objects and resists. Only then can the subtle body of the metal – hardness of iron, the quick warmth of copper, the weight of lead – join the work. “Only separated things can be conjoined,” say the alchemists.

## IV. VESSELS

The inescapable paradox of fire – of alchemy, of psyche, of intelligent living – consists in this double commandment: *Thou shalt not repress / Thou shalt not act out.*

On the one hand, fire will act out. Fire spreads; its appetite consumes whatever is combustible. It cannot be concealed. “Three things cannot be hidden,” says an Arab proverb, “a camel in the desert, someone in love, and a fire.” [32] Fire insists on being visible. It does not want to be repressed, its sparks to be smothered, doused. It will smolder long after the flames have died.

On the other hand, desire may not be released straight into the world. The work is spoiled, say the alchemists, by direct heat. Do not let flames touch the material. Direct fire scorches, blackens the

seeds. Fire is quick, and “all haste comes from the devil.” *Festine lente*, “make haste slowly,” advised a favorite Renaissance maxim.

Do not act out; do not hold in. A paradox. And a double negative that suggests a *via negativa*, a de-literalizing cancellation of both commandments. A mercurial escape from the exhausting oscillation between them. Instead of holding in or acting out, *act in*. Cook in the *rotundum* as one vessel was called, referring both to a container and to the roundness of the skull. [33] Hold the heat inside the head by warming the mind’s reveries. Imagine, project, fantasize, think.

Vessels both contain and separate. *Separatio* is one of the main operations in the work. Each substance, each quality, must be distinguished from the *massa confusa* of the primary material, the original supporting confusion. Although the two operations of separation and conjunction are referred to again and again as basic to the work all along (also termed “dissolve and coagulate”), the *separatio* is the more fundamental. This again because “only separated things can be conjoined.”

Any substance held in a basket or a jug has been separated from the undifferentiated bulk simply by virtue of a container. The material stuff is no different, and yet it is altogether differentiated by its form. Your beer in a bottle, my beer in a can, are the same and not the same. Water in a jar is jarred water, like bottled water, fountain water, river water. The moment the water running from the tap fills this vase or that bucket, the water has taken on shape.

We cannot handle all suffering, all evil, all ignorance, all emotion – only that particular part that has been separated out and given a recognizable form.

Water itself comes in a variety of conditions, from raindrop to ocean, from stagnant marsh to white cascade. The vessels which hold it have edges and bottoms. It is not merely a question whether you are too wet or too dry, too runny and sloppy or too parched and brittle, but how is your moisture *shaped*. Humanity shapes, as birds shape their nests and burrowing animals shape their tunnels. And we shape our graves and burying vessels – abhorrent the bodies of the dead heaved into a pit, shapeless.

Whatever we deal with has to be held in some way. Even oceans have their shores.

If God had not given us a vessel  
His other gifts would have been of no avail. [34]

Vessels come in every sort of shape and size, made of all kinds of materials, from river reeds and willow twigs to thick clay for pots, wood for barrel staves, metal and glass for beakers. Some vessels are quick to heat but crack easily. Some are opaque, others transparent; some flat and open to allow evaporation, others tightly sealed to intensify the pressure. Vessels: methods of containment. Can you take the heat? Are you opaque and dense, slow to warm so no one can tell what is going on inside? Sometimes it is less an issue what is in the vessel, the nature of the stuff being contained, and more one of shape: leaky, fragile, brittle, solid, full to overflowing, empty, cracked ... “I’m doing fine, in great shape.”

Vessels are the way we embrace events, store them, style them. Prior to weapon and tool, the vessel. Hunt the mastodon; cook the meat; but the leftover must be kept, and the water brought from the river. “His other gifts would have been of no avail.” Along with the sharp flints and stone axe-heads for cutting, the spear points and fish hooks – instruments of killing, there are baskets and slings and gourds and pots – instruments of keeping. Since the former lasts through time, while the latter more easily fragments and decays, our picture of early human life puts the male hunter in the foreground and the female gatherer, keeper, and sorter in the background.

Vessels present the style of a culture. One image tells a story: a chipped, dirty toothbrush glass for whiskey in a cheap bed-sitter by Graham Green; pop-up beer cans, Styrofoam cups, jokey ungainly coffee mugs, motel wastebaskets with plastic liners. The bruhaha over wine-glass shapes, stems,

thinness ... By their vessels ye shall know them.

“Let your glass distilling vessel be round or oval ... Let the height of the vessel’s neck be about one palm, hand-breadth, and let the glass be clear and thick (the thicker the better, so long as it is clear and clean, and permits you to distinguish what is going on within ... The glass should be strong in order to prevent the vapours which arise from our embryo bursting the vessel. Let the mouth of the vessel be *very* carefully and effectually secured by means of a thick layer of sealing-wax.” [35]

Three observations to draw from this passage: (1) “To distinguish what is going on within”: insights must be clear, not vague and cloudy; (2) “Vapours which arise from our embryo [can burst] the vessel”: the living seed of the work is not viable for life, must not leave the vessel; and, while it is germinating, it gives rise to fantasies which seek to escape into the world (in programs and projects); (3) “Let the mouth of the vessel be *very* carefully ... secured”: Treat the work-in-progress as a secret. Guard your open mouth. Watch carefully what and how and to whom you speak about what is going on within.

Within? Where is that? Within the vessel, whatever the vessel may be: wherever there is a contained and separated focus, a holding zone, something cooking. You are not the vessel, nor is it necessary to believe that “within” is within you – your personal relationships, your psychic processes, your dreams. Interiority is within all things – the garden bed that is in preparation, the poem that is the focus of attentive emotions. Keep a close watch on these interiorities; by watching we are vesseling, for it is the glass vessel that allows the watching, and watching provides the very separation and containment expressed concretely by the glass vessel.

The watching alchemist is also the observed. Inside the vessel, creatures form, strange images of excited materials, Kings and Queens, little homunculi – miniature figures with faces and eyes. The alchemist becomes the subject of interior observations. The human will’s intentions submit to imagistic guidance, a kind of poetic influence of “others” as the vessel brings them to life.

## *Glass*

Glass: like air, like water, made of earth, made in fire. Blown glass melts, liquefies, glows, expands, takes on all sorts of shape, size, thickness, brilliance, and color. It can take the heat. Glass lets us see what is going on within it, behind it. Glass, the vessel of inside revelation, capturing and transmuting the glimpse or glance into studied observation. Inside the glass curcurbits, depicted in the *Splendor solis* and the *Trésor des trésors*, glorious figures go through their alchemical transmutations. Glass holds precious blood in a vial, roses in a bowl, wine in a decanter.

By removing the *opus* from forge to stove, glass makes alchemy possible, and psychological. Glass also makes the science of chemistry possible in the laboratory of controlled *in vitro* observation and experimentation.

Glass also separates observer from observed. It is the material of distancing, separating events from life by means of fragile transparency, enclosing them each in its own “house” as the glass vessels were sometimes called. Because the clear glass preferred by alchemy is itself hardly visible, its invisibility allows the visibility of the *opus* – but only when the glass is shaped into a vessel, that is, affords containment. Glass slide, glass countertop, looking-glass are not enough for the alchemical work.

The parallels with psyche are obvious. The psyche too is invisible; we grasp it only in reflection or we identify it with its contents – this dream, that feeling or memory. Psyche appears to be only what it contains. Glass, like psyche, is the medium by which we see into, see through. Glass: the physical embodiment of insight. The illusion of glass makes content and container seem to be the same, and because we see the content before we recognize that it is held by glass, we do not at first see its shape,

its density, its flaws since our focus is fixed on the contents. Glass as subtle body requires a subtlety of noticing. The sophistication of the material needs sophistication of insight.

The alchemical mind was occupied with noticing properties. Which qualities, which attributes, are the “virtues,” in Paracelsus’s terms, of a substance? Natural things could be grouped, even classified, by their adjectives: hard, cold, bitter, wintry, could bring together phenomena from all three kingdoms – animal, vegetable, mineral. Because the world is inherently intelligible we can discover where each phenomena belongs by means of the study of properties, care with adjectives.

### *The Bain Marie*

The glass vessel is itself vesseled. It can sit in a pot of ash or sand, but more often it is inside a larger container of water: the *bain marie* or Mary’s Bath.

Heat penetrates the stuff in the glass vessel by means of water. Both fire and water cooperate to regulate the heat, though neither element touches the substance directly. An ingenious method of indirection, bringing together two notorious enemies, fire and water, to serve the *opus*. [36] Usually when they meet, they hiss and spit and let off clouds of scalding steam, but the *bain marie* protects them from killing each other, and protects the substance from elemental warfare.

The *bain marie* appears in alchemical tradition as an ancient invention, from Egypt perhaps, coming from a practitioner named Mary the Jewess, [37] identical with or confused with Maria Prophetessa. The *bain marie* supposedly developed in the kitchen of a Jewish lady, mystic, experimenter, cook. Today’s cooks still use the vessel as a “double-boiler.”

As long as water fills the bath, the substance cannot burn, cannot even boil away. The heat of the bath increases ever so gradually in order to loosen and relax the stubborn resistance of the substance by means of gentle warmth. Like your body in a warm tub, which gradually rises in temperature as you draw in more hot water. The warmth permeating the glass vessel from the bath is another way of imaging sympathetic attention, gentle encouragement, all-embracing tolerance. Knots, boundaries, strictures give way.

“Perform no operation until all becomes water.” Before you can do anything at all psychological, you must dissolve the initial mindset with which you approach a problem. Problems themselves are fixed positions. The word “problem” refers in its primary meanings to chess, math, battle strategy – all very tight conditions. We yield and let go, and the mind, set on resolutions, lets go of its own mindset that seeks the resolutions. Will power turns to lassitude in the bath.

Perform no operation until all has become water: rational analysis must wait for emotion to flow, reveries to float, collect in pools, stir, sink, find outlets. Discriminations blur. This and that melt into each other; right and wrong and their guilts grow soft and mushy; they hardly matter, no hard facts, no sturdy sureties to cling to. All yields to the warming water. We become gentler with ourselves. We lose intention for arrival, no hurry. A bath is not a shower. We are the substance, our body and our mind enter the vessel of the soul, Mary’s bath. We are the cook and the cooked, unable to feel the difference.

### *The Pelican*

The stoppered vessel serves well for sublimation (raising a substance to a higher level) and for precipitation (a substance at the bottom may produce either drops or liquid at the top or a fine white precipitate). But for more subtle operations a special closed vessel is required: the Pelican.

This glass container has a fat round body stretching upward and out of the body into a long neck that curves downward and rejoins by inserting into the body, thus allowing a circulation of the same

matter through various stages from below to above and then back down again.

The Pelican sophisticates the familiar alchemical image of the Ouroboros, the snake that bites its own tail. The Pelican, too, is a tail-eater: the lower end is consumed by the upper end, the head, but the process does not stop there with mental reflection. The head sends its product down again into the body, repeatedly. A continuing circulation ensues. What arises to the head does not escape. As the substance melts, steams, sending vapors upward, cloudy ideas form, pressures increase, lighter, uplifting feelings swirl. But these inspirations and hot ideas are re-processed down as too unripe, too soft-boiled, too unreal. Rather, they are fed back into the vessel as further nourishment. It is the *opus* that must be fed, continued at all costs.

Repetition. *Iteratio*, they called it. “But I’ve been here before; “I’ve done this already.” The same again and again.

The Pelican embodies sacrifice; it is a sacrificial vessel. It is the instrument of ritual. An essence of ritual is the complaint: “Yet again.” *Iteratio, circulatio*, biting your own tail, eating your own body that feeds your own body. The process is closed into itself, lives on itself, feeds off its own images, including the images of emerging product, of goals, of futures. The sacrifice of non-arrival. Getting nowhere, utopia as goal.

Hence the term “Pelican,” since that bird, according to lore, drove its bill into its own breast to draw the blood that fed its young. Christ was this pelican, nurturing his faithful with his own life-blood. The pelican is thus a wounding, a repetitive ritual, a sacrifice, and a humiliation all at once. And, a necessary instrument for feeding the *opus* from within itself.

What arises during the work belongs to the work, not to the world. Before the vessel may be opened, its contents must be thoroughly psychologized, refined, sophisticated; its concretizations vaporized. Maintain the heat; stopper the vessel; find pleasure in repetition. The soul is being nourished by its wound.

Yet more subtle: the Double Pelican. The depictions show two pelicans interlinked, side by side or face to face. What emerges from the body of the vessel on the left flows through its neck into the body of the vessel on the right, and vice versa, i.e., the cooking contents in the vessel on the right flows through its long curved neck downward into the body of the vessel on the left. Exchange of reveries, like lovers interlocked, joined by mutual imaginings. A model of co-generation, partnering, intimate kinship. *Yab/Yum*. Native Americans in some locales smoked their tobacco in similar ritual pairings. By means of a tube in my nose, I inhale your exhalations, and in reverse: as I blow my smoke out, you breathe it in. Cross-fertilization of spirits.

The soul requires psychic material. The residues of the daily world, *Tagesreste* as Freud called them, may fill the vessel but do not feed it. Information and influences only nourish after they are mulled and brewed a while. Think of the soul as a cow with several stomachs; reflection as regurgitation. *Pepsis* was one of the terms used for what went on in the vessel: *pepsis*, Greek for digestion; transubstantiation of the raw into the cooked. Turning the events of the day into experiences, which is one definition of soul-making. Alchemists warn against undigested material – extraneous comparisons, borrowed interpretations, theories and explanations. They say “read,” and yet they say, “nothing found in books is of any use.” All that is needed is already given, providing it be properly cooked.

The Pelican offers an image for the wounding that the work causes. We feel the cost in blood. “Things must be cooked in their own blood,” is an oft-repeated admonition. We feel the draining in the body for what might come later but is now entirely unknown, the Pelican’s offspring, children of the imagination, for “Imagination bodies forth / The form of things unknown.” [38] The Pelican: vessel of psychological faith, a phrase used by a keen student of alchemy, Robert Grinnell, [39] for an attitude or a devotion that calls for nothing less than giving in, giving over to the *opus* all personal

demands one has upon it, for its sake, come what may.

### *The Void in the Vessel*

Each vessel has its particular shape. Inside is emptiness. Each vessel is shaped around this emptiness. Because our Western culture declared “Nature abhors a vacuum,” we abhor emptiness. (“Empty” from Old English meaning “at leisure, unoccupied,” that is, not working, unfunctional.) For us, the void in the vessel is just that: empty. We regard vessels from the outside, admiring the glaze on the pot, the cut of crystal, the weave of a basket, and handle of a jug. When valuing the inside, then by measure only: how much does it hold? A pint, a quart, a bushel?

In Buddhism, the void is less a vacuum than a positive force.<sup>[40]</sup> The inside shapes around itself the outer visible form. The “stillness” of the Chinese jar (T.S. Eliot)<sup>[41]</sup> begins inside; the exquisite shape we see is the stillness emanating from the void. Always this specific void inhabits this specific shape.

Culture affects the shape of vessels and therefore they reveal mysterious qualities of a culture that its other arts and written texts might not as well express. Strange shapes, perfected forms of different Chinese dynasties, Greek pots, Etruscan, Phoenician, French Rococo, Picasso’s ceramics, Morandi’s clusters of quiet bottles. Barrels and casks, pitchers and jugs. The long-neck beer bottle, the old Coke bottle, the milk bottle with the bulge for yellow cream. The Roman *futile* that could only tip over, the goat skin of wine, the metal canteen shaped differently for each nation’s army. Vessels expose the invisible *Zeitgeist*, the visible formed by the invisible.

Western phrenology and Romantic medicine expressed a similar idea, attributing the contours and crevices in the human skull to the force of the brain, and within that organ, the power of mind or soul. Phrenologists penetrated to the “inner nature” of a person by studying and measuring the palpable bumps of the skull. They claimed to read a person’s gifts and deficiencies, the very inmost character, from the hills and valleys of cranial topography.

These ways – Oriental and Romantic – of considering inner emptiness suggest that each emptiness has its individual shape and is contained in a quite particular manner. Your void is not my void, and hers is different again. The way a person holds his or her lacunae is already a revelation of what is being held. General terms, simplistic diagnostics – abandonment, need, identity crisis, low self-esteem, depressive mood, dependency, masochistic helplessness – cannot adequately describe, let alone understand, the force of the void.

Because our collective Western natures abhor a vacuum, we reach out to fill the emptiness with anything, everything from junk food to junk self-help, from drink and shopping and the novelty of games and gadgets to the commiseration of soul-mates, or simply endless tears. Alchemy, however, suggests these feelings of emptiness are indications of a vessel forming. The void is building a shape, a particular shape. Perhaps several vessels. Modes of containing. Modes of measuring. Modes of differentiating. The reality of the psyche is forcing its way into life and reshaping one’s life by means of the feelings of emptiness.

Sometimes the void can be located physically. Right here, in my belly; just behind my heart I feel light-headed, dizzy. Sometimes it appears in a dream as falling through space, a pothole, a dark cave, a huge vacant lobby, an egg-shaped object.

So long as we do not attribute formative power to the hidden inside of the vessel, we will continue to read its function in one direction only. The pitcher holds water, the vase holds flowers, the basket, fruit. The void inside is merely a receptacle; the water, the flowers, the fruit are what count.

A reverse reading says the jug is moistening, the vase flowering, the basket fruiting. The master painters in Holland and in nineteenth-century France showed the poppies and irises and roses, the

pears and apples and grapes emerging from the hollowness of their containers, the void as source of beauty. If you examine the vases holding the flowers, the baskets and plates on which the fruit lies, these vessels are each manifestations of particularized shapes, colors and textures, and they are inherent to what they display. “If God had not given us a vessel / His other gifts would have been of no avail.”

## V. OVENS AND STOVES

Vessels contain the substance, but the fire itself must be contained. The heat that charges through the work and makes alchemy possible requires a container equal to its burning force. Desire needs direction. Clay cracks, glass breaks, wood burns, metal melts. What vessel can hold the *opus maior*? The methods implied by the vessels – clay’s earthiness, the reflection and lucidity of glass, the materialistic naturalism of wood, and the disciplined hardness of metal – each fall victim to the great heat. The soul madly burns for “gold,” how else account for the insanity of alchemy, the folly, the miserable privations and persecutions and the exalted ambition of those who pursued it to their deaths. The elixir that would cure all ills, grant longevity and immortality of soul as well as fame, fortune, and the company of kings – these were the visions of alchemical desire. So excessive, so extreme that they could only come from the Gods. Such was the imagination of Zosimos who retells a Jewish tale (Genesis 6:1–4) as if alchemy’s origins:

Angels were taken by passion for women. They descended to earth and taught them all operations of nature ... They were the ones who composed chemical works ... Their book is called *Khema* and it is from them that chemistry [*kumia*] received its name. [42]

Alchemy starts in desire; desire needs direction. Ethical suppression cannot master desire. The essence of fire is out of our control. It comes from the celestial region, from angels, from the gods and the earth’s burning bowels. Hence the shamanistic aspect of the smith as fire master, and the crime of Prometheus’s humanism.

*Furnus*, the furnace as response to fire. The *Furnus* takes responsibility for the fire. Equal to the forces of fire must be the rigor and fantasy of the stove. It must be able to govern fire’s wild combustibility, and a Chinese text refers to the “sacrifice to the stove (*tsao*) and you will be able to summon ‘things’ (i.e., spirits).” [43] *Furnus*: a logic of strong, well-built, carefully joined, enduring system. Ground rules, bricks and mortar of the trade, iron-clad discipline of the church or school or society which keeps the living spirit in focus, concentrated, and able to withstand the blaze of inspiration, the flashes and sparks of passion that would ignite grass fires and scatter the intensity.

Direction, aim, purpose, concentration, focus. *Focus*, Latin for hearth. The fire-resistant stove is ruled by its own governing principle: to resist the fire. Rules are made to keep the fire in bounds. A stove is constructed; it is a construct, a conceptual system. Its design has designs on the fire, designating its direction and quality.

Assay furnaces, cupelling furnaces, silver-refining hearths, iron-smelting furnaces, glass-melting furnaces, furnaces for smelting lead or tin and for separating silver from copper, and hearths for the production of mercury and resin. [44] Back-burners and front-burners, multiple vents, multiple heats, hideaway ovens, warmers, hot grills of orange coals. Some alchemical stoves had more than forty different cooking places. Multiple heats for multiple materials and concomitant multiple operations. The stove: the discipline of multiplicity. Knowing where each thing best belongs; a place for every operation and each thing in its place. Placing as the art of cooking.

Again, Maria the Jewess is considered, by Zosimos at least, to be the source for the early description of furnace construction, which would logically necessarily follow from her invention of

the *bain marie*. [45]

Kinds of cooking, multiple operations: evaporation in a flat pan lets the steam dissipate; distillation achieves from a messy mass a few drops of clarity; sublimation brings a material upward from the sedimentation at the bottom of the vessel; congelation allows matters to cool down and solidify into a definite shape; fermentation encourages the stuff to enrich from within its own obscurity.

Multiple operations, multiple stoves. [46] Ascending furnace drives the heat upward; descending furnace drives the heat downward; sand furnace surrounds the vessel in ashes, the warmth coming from yesterday's fires: soft, gray, dry, burnt out, yet still giving off warmth; reverberating furnace in which the heat bounces off the interior walls, cooking by echo, repetitions that build intensity; blasting furnace increases the flame by means of a current of air for liquefying and melting minerals; bladder furnace suspends material in a bladder with its mouth protruding outside the oven. These are but some described in technical works on ovens and condensed in Ruland's *Dictionary*, entry on "Furnus."

"Olde Men imagined for this Art / A special Furnace for every part." [47] Norton invented his own furnace "unknown to the Ancients." "I set it up ... at a very considerable outlay ... It is so constructed that sixty different chemical operations, for which diverse kinds of heat are required, may be carried on in it at the same time, and a very small fire ... supplies a sufficient degree of heat for all these processes." [48] He goes on to describe other stoves he is perfecting, their ingenuity, their economy of fire (fuel), their multiple service, their capacity for regulating degrees of burning intensity – and which furnace types are best for which particular operations, e.g., purging and drying for exaltation.

If the stove disciplines the fire and directs the heat, it embodies rules and cautions that alchemists love to pronounce. Hardly a text can be found that does not find fault with other texts and the errors in their procedures, or succumb to giving warnings, advice, and moral admonitions.

Norton's treatise insists upon five "rules or concords":

The first rule to be observed is that the student's mind should be in perfect harmony with work. The desire of knowing this Art should hold a dominant place in his mind; else all his labors will come to nothing. The second concord is that he should know the difference between this Art and those who profess it. The third kind of harmony is that which should exist between the work and the instruments. The fourth concord assigns to the work the place which is most suited to its execution. The fifth concord is the sympathy which should exist between your work and the celestial sphere. [49]

Were we to imagine that rules for the alchemical opus are equally valid for psychoanalytic work, then these five rules could be restated in contemporary terms: (1) Knowledge of the psyche in all its vicissitudes, rather than of oneself or of the patient, should hold a dominant place in the practitioner's mind; (2) The value of psychological work is not measured *eo ipso* by the examples of those who practice the profession of psychology; (3) Since concepts are instruments of psychological practice, they must harmoniously further the intentions of the work; (4) Your place of practice shall suit your style of practice and its aim; (5) Practice expresses a cosmology. There should be a harmony between cosmos and clinic, between your broadest view of the world's ultimate order and the intimate work with the suffering of souls.

## VI. THE SPIRIT OF FIRE

More rudimentary than the tools, stuffs, and procedures used by alchemy is the fire upon which all depends – the element with which this chapter began and now ends. Fire is the first principle, the root metaphor. As the work is governed by fire, dependent on fire, so is alchemical thinking about the work. Consequently, the characteristics of fire archetypally propel alchemical reflection in a specific direction. [50]

Thinking requires language. The idea that fire transforms matter is not only an empirical idea

witnessed when a flame burns a wood chip to a black cinder. That transformation was already implied by the Greek term for matter, *hyle* (wood, timber), which later accreted more abstract meanings of Aristotelian potentiality (able to be transformed) and Christian fallenness (able to be redeemed). As wood submits to fire, so material nature submits to spirit by which it is purged, transformed and raised.

Any worker in fire can easily perceive fire's primary characteristics. It rises. Its heat overpowers and changes materials. It gives off light. It cannot be touched directly. It cannot be satiated. *Ascension, transmutation, enlightenment, intangibility, insatiability*: these five ideas empirically witnessed in the laboratory affect the formulations of alchemical texts and later commentators on these texts. In brief, fire gives alchemy its spiritual readings.

*Ascension*: In the fire of the work, or on fire with their work, alchemists are subject to fire's defiance of gravity, and they imagine their work pointing upward in accord with the flames and the heat they are attempting to control. From lower to higher; from inert to active; heavy to light; small, aimless and smoldering to intense and leaping. A ladder of values and stages of progress: imperfection to perfection; disease to health; particular to universal; mortal to immortal – *medicina cattolica*, panacea, resurrection, diamond body, gold, saved from hell-fire by divine fire, the salamander who survives fire, the phoenix rising from the ashes.

*Transmutation*: An inner fire is at work all through nature lifting it in stages from impure to pure. Witness the accomplished transmutations in particular pockets of rock: crystals, precious jewels, nuggets of gold. Evolution is built into the mineral body of the earth. Though fire may calcinate a substance to powdery ash, blacken it to "death," nonetheless, downward and disintegrative effects are appropriated by the overall model of improvement. Light at the end of the tunnel; darkest before dawn; Gethsemane and Golgotha before the Resurrection. Whatever fire touches it alters: All things are subject to its transformative omnipotence. Even water evaporates, rock melts to lava, and the strongest iron bends to its will. The flame of the spirit overcomes all material resistance.

*Enlightenment*: Fire lights up the dark. By means of it we can see in the dark, advance into the dark, hold back the night. Yet, this same fire sharpens and deepens the dark. Standing close by its light, near into the fire (lamplight, candle flame, camp-fire), the corners and shadows of the farther perimeter become pitch, impenetrable. The more light, the more darkness, requiring ever brighter enlightening. Light and dark, contraries defining each other; eventually, opposites warring each other. Enlightenment, a *via longissima* because unconsciousness increases in proportion to illumination. Resolution of the paradox? An epiphanic illumination, only an apocalyptic fire of spiritual awakening evacuates darkness itself: "Death and Hades cast into a lake of fire" (Revelations 20:14); "O Death where is thy victory?" (1 Corinthians 15:55).

*Intangibility*: Because fire cannot be touched directly, it must be grasped indirectly, by hints, paradoxes, analogies, allegories, cryptic ciphers and arcane symbols. Gnostics, Rosicrucians, Kabbalists. The "black art" of hidden knowledge. Anything usually perceptible to the common eye is not the alchemical gold; all things, the mind itself, must be initiated, sophisticated. Only an elite, initiates of the occult, a priestly caste, reclusive and disciplined, having suffered long in the mystery, done their mortifications and their praying, can work the fire.

*Insatiability*: When Thomas Norton describes the qualities required by an alchemist's servants, his job description could as well cover a nursemaid. Caring for the fire in many indigenous cultures belongs among the tasks of women and the old. Like a baby, fire wants only to grow and its appetite is insatiable. It must have regular feedings, enough air, and nothing indigestible – wet straw, rotted wood, dirt-covered roots, clumped dung. As it grows it seeks to leap out of the cradle, go off on its own, and spread its sparks. Alchemy's insatiability is sometimes disguised, sometimes blatant. Insatiable, the expansion of terms, differentiation of stuffs, kinds of vessels. Insatiable, the appetite for

learning: “One book opens another.” Insatiable, the desire for the golden goal. Even the last stages of the *opus major* are limitless: *exaltatio*, *multiplicatio*, *rotatio*. And alchemy does not let itself be reduced to simple formulae and normative rules, as if, because of the fire, alchemy cannot come to a cohesive system required by its own operations of coagulation and conjunction. Like the spirit, it goes where it wants, follows its impulse. Like the spirit, fire is on a mission, to ignite fires ever further afield, converting the day into combustibles to fatten its own flames.

These five leading ideas so apparent to any “worker in fire” together support an alchemical metaphysics. The archetypal ascending impulse within fire gives alchemy its spiritual vision, translating its images and insights into messages for the upward path. The Christianity of alchemy’s main authors derives not only from their historical context: that they were writing in a strongly Christian era. Their redemptive metaphysics is determined even more by their archetypal context: the spiritual ascensionism of elemental fire.

A passage from Aristotle can save alchemical psychology from this archetypal determinism and the spiritual reading of alchemy. Aristotle writes:

For the growth of fire is unlimited while there is something to be burnt, but in all things which are naturally constituted there is a limit and a proportion both for size and for growth; and these belong to soul, but not to fire, and to principle rather than matter.<sup>[51]</sup>

Since soul recognizes itself in its images and since the making of images (*poesis*) is soul’s primary natural activity, <sup>[52]</sup> “the definite principle” that governs the “increase of fire” are images. They are the essential rudiments of the entire work. They are what the alchemist sees and smells and touches with his hands – and what he imagines. Focus on them limits the infinite metaphysical speculation (“the increase of fire”) to just what is just now. Alchemical descriptions in language and pictures are coagulations serving to condense the volatility of the engaged psyche into actual presentations. Alchemy: a study of presentations as these appearances portray, define, and affect the soul. Consequently, alchemy’s insatiable spiritual drive, its “fire,” requires psychological limitations, an alchemy of soul such as this rudimentary chapter and the book as a whole intend.

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Previously unpublished.

<sup>1</sup> G. Bachelard, *The Psychoanalysis of Fire*, trans. C.M. Ross (Boston: Beacon Press, 1964).

<sup>2</sup> “Both the metallic body and the alchemist suffer and feel joy in the process. Not only do the substances mate in the alembic, the alchemist also at the same time mates with nature.” J. Lindsay, *Origins of Alchemy in Graeco-Roman Egypt* (London: Frederick Muller, 1970), 294.

<sup>3</sup> *CW* 12:61n; *CW* 5:309–19.

<sup>4</sup> Michael Maier (1617), quoted by J. Read, *From Alchemy to Chemistry* (Mineola, N.Y.: Dover Publications, 1995), 37.

<sup>5</sup> J.D. Mylius, *Philosophia Reformata* (1622), quoted by J. Read, *Prelude to Chemistry: An Outline of Alchemy* (Cambridge, Mass.: MIT Press, 1966), 264.

<sup>6</sup> “The fire must be light, mild, and moist, like that of a hen brooding over her eggs.” *Lexicon*, s.v. “Great Secret of Aristeus.”

<sup>7</sup> *Lexicon*, s.v. “Ignis Leonis.” Norton describes fourteen increasingly hot qualities of heat (“The Chemical Treatise of Thomas Norton,” in *HM* 2).

<sup>8</sup> J. Cocteau, *The Difficulty of Being* (New York: Coward-McCann, Inc, 1967), 32.

<sup>9</sup> T.S. Eliot, “Four Quartets: Little Gidding,” in *The Complete Poems and Plays, 1909–1950* (New York: Harcourt Brace & Company, 1952), 139.

- 10** T.S. Eliot, “The Waste Land,” in *ibid.*, 37.
- 11** *Collection des ancien alchimistes grecs*, ed. M. Berthelot, vol. 2: Les Œuvres des Zosime (Paris: Georg Steinheil, 1888), iii.lvi.
- 12** *Lexicon*, s.v. “Ignis.”
- 13** *Ibid.*, s.v. “Ignis Extinctus.”
- 14** *Lexicon*, s.v. “Combustio.”
- 15** *Lexicon*, s.v. “Calx.”
- 16** E.J. Holmyard, *Alchemy* (Harmondsworth: Penguin Books, 1957), 45.
- 17** *Lexicon*, s.v. “Ignis Persicus.”
- 18** *Figulus*, 267–68.
- 19** Cf. J. Hillman, “In: Hestia’s Preposition,” in *Mythic Figures*, UE 6.
- 20** R.B. Onians, *The Origins of European Thought: About the Body, the Mind, the Soul, the World, Time, and Fate* (Cambridge Univ. Press, 1951), 288 and 258n5.
- 21** John Pordage (1607–81), in *CW* 16:507.
- 22** Plato, *Symposium*, 197a, *Protagoras*, 321e.
- 23** *CW* 12:451.
- 24** Augustine, *The City of God*, xxi.4.
- 25** *Bonus*, 115–16.
- 26** *Aurora Consurgens: A Document Attributed to Thomas Aquinas on the Problem of Opposites in Alchemy*, ed. M.-L. von Franz (Toronto: Inner City Book, 2000), 290.
- 27** It is estimated that as much as one hundred million tons of charcoal are still being produced annually. S. Perkins, “Charcoal warms the whole world,” *Science Review* 160 (2001), 383.
- 28** Read, *From Alchemy to Chemistry*, 79.
- 29** Alchemy ignores the modern distinction between organic and inorganic chemistry. See, for instance, the major and original work of Angelo Sala (1576–1637) on (organic) sugar and (inorganic) salt. Both substances embodied similar Paracelsian principles: the combustible (sulfur), the fluid (mercury), and the heat-resistant (salt). For Paracelsians, and alchemists on the whole, metals and their ores “grew” in Mother Earth like plants. Z.E. Gelman, “Angelo Sala: An Iatrochemist of the Late Renaissance,” *Ambix* 41, no. 3 (1994), 146–60.
- 30** *CW* 9.2:244n.
- 31** *Ethica*, part III, prop. VII. B. de Spinoza, *Opera*, ed. J. Van Vloten and J.P.N. Land (The Hague: Martinus Nijhoff, 1914), vol. 2.
- 32** *The Secret Heart* (1946), a film directed by Robert Z. Leonhard, starring Claudette Colbert, Walter Pidgeon, and Lionel Barrymore, opens with the following written prologue: “There are three things you cannot hide: Love – smoke – and a man riding on a camel – an old Arabian proverb.”
- 33** *CW* 14:731–32; 13:113–18.
- 34** The maxim is attributed to Albertus Magnus and quoted in “The Chemical Treatise of Thomas Norton,” *HM* 2:62. Norton adds to Albertus “and that vessel is glass.” “Moreover, the size and shape of your vessel should be in proportion to the quantity of your substance, and to all other conditions of the experiment.”

- 35** Philalethes, “An Open Entrance,” in *HM* 2:182.
- 36** *CW* 12, fig. 72.
- 37** R. Patai, *The Jewish Alchemists* (Princeton Univ. Press, 1994), chap. 5: “Maria the Jewess.”
- 38** W. Shakespeare, *A Midsummer-Nights’ Dream*, 5.1.
- 39** R. Grinnell, “Reflections on the Archetype of Consciousness: Personality and Psychological Faith,” *Spring: An Annual of Archetypal Psychology and Jungian Thought* (1970), 15–39.
- 40** E.C. Eoyang, “ ‘Vacuity,’ ‘Vapor,’ and ‘Vanity’: Some Perspectives on the Void,” *Tamkang Review* 16, no. 1 (1985), 51–65.
- 41** T.S. Eliot, “Four Quartets: Burnt Norton,” in *The Complete Poems and Plays*, 121: “The stillness, as a Chinese jar still / Moves perpetually in its stillness.”
- 42** Patai, *The Jewish Alchemists*, 56.
- 43** A. Waley, “Notes on Chinese Alchemy,” *Bulletin of the School of Oriental Studies*, London Institution, VI: 1 [1930], 2.
- 44** B. Meitzner, *Die Gerätschaft der chymischen Kunst: Der Traktat “De Sceuastica Artis” des Andreas Libavius von 1606* (Stuttgart: Franz Steiner Verlag, 1995).
- 45** Patai, *The Jewish Alchemists*, 90.
- 46** Cf. C.R. Hill, “The Iconography of the Laboratory,” *Ambix* 22 (1975), 101–10, with numerous illustrations.
- 47** Holmyard, *Alchemy*, 193.
- 48** “The Chemical Treatise of Thomas Norton,” *HM* 2:62.
- 49** *Ibid.*, 59–60.
- 50** The paradigmatic figure for this direction is the Belgian chemist and physician Jan Baptista van Helmont who regarded himself as a *philosophus per ignem*, a philosopher by fire. This mystical, yet empirical, thinker held that God communicates “by means of fire – the penultimate chemical means of inquiry. Fire is a concentration of light, and in its destructive power ... it is a divine creation.” B. Heinecke, “The Mysticism and Science of Johannes Baptista van Helmont (1579–1644),” *Ambix* 42, no. 2 (1995), 72.
- 51** Aristotle, *De Anima: Books II and III (with passages from Book I)*, trans. D.W. Hamlyn (Oxford Univ. Press, 2002), 19 (416a).
- 52** *CW* 13:75; 11:889, 769; 8:618. Cf. J. Hillman, *Re-Visioning Psychology* (New York: Harper & Row, 1975), xvii: “[Jung] considered the fantasy images that run through our daydreams and night dreams, and which are present unconsciously in all our consciousness to be the primary data of the psyche. Everything we know and feel and every statement we make ... derive from psychic images.”