Alchemy vs. Chemistry

The subject of alchemy consists of a bewildering number of textual traditions involving, among other things, transmutation, matter theory, and practical operations of the laboratory. Deciphering these manuscripts is also made difficult by the use of deliberately secretive language and the use of pseudonymous authors (resulting in hundreds of manuscripts attributed to “Geber” for example) The origins of alchemy are in the ancient world, but the bulk of early alchemical doctrine was formulated and elaborated by Arabic natural philosophers. During the twelfth century, these works on alchemy were translated into Latin along with other works in natural philosophy.

I. The Story of Phillip Sömmering and Duke Julius of Braunschweig-Wölfenbuttel

II. Popular Images of Alchemy
   1. Fraudulent
   2. Delusional
   3. Pseudoscience
   4. Carl Jung’s interpretation of alchemy

III. Origins of Alchemy
   1. Etymology
   2. The Leiden and Stockholm Papyri
   3. Alchemy in the Islamic World
      a. Jabir ibn Hayyam (Geber, ~721-815), Seventy Books.
      b. Abu Bakr al-Razi (born ca. 864), Secretum secretorum
   4. Transmission to Western Europe, and Alchemical Debate

IV. Theory and Practice in Late Medieval Alchemy
   1. Geber, Summa Perfectionis, ca. 1300
      a. Emphasis on minerals and metals
      b. Corpuscular, hierarchical theory of matter
      c. “Mercury alone” theory and the philosopher’s stone
      d. Theory of amalgamation
      
      In [tin] is equality of fixation of the two components quicksilver and sulfur, but not equality of quantity, since quicksilver predominates in their mixture, the sign of which is the easy penetration of quicksilver in its own nature into it. Therefore, if the quicksilver in tin were not of greater quality, it would not – having been taken up in its own nature – have adhered to that easily. For this reason quicksilver does not adhere to mars [i.e. iron] or venus [i.e. copper] except by means of the subtlest craft, due to the paucity of quicksilver in them in their intermixture.
      e. Experimental support

   2. Paul of Taranto, Theoria et practica
      a. Power of alchemy to match and outdo nature
      b. Quantitative measurement

      Let a very well sieved cinder be taken and mixed with water of salt; let a vessel be made from it, in which solver or whatever metal that you seek to test in the cupel be put on a very violent fire. With the metal fused, let a sixth part of lead
be thrown on; this is especially done in the case of silver. Let a pipe of iron or reed be had, through which one can blow on the surface of the fused metal. The lead fused on the metal will be seen smoking due to this—that it has volatile flight as well as the loss of its substance owing to its badly fixed principles. Thence it is that, passing into smoke, it will draw with it all that is imperfect in the metal to be purged. The purged metal with the lead added to it will be recognized not to be vaporized, but it will seem to be boiling, and to eject froth— as it were fling forth; then let no more lead be added.

c. Rejection of substantial forms in support of “corpuscular juxtaposition”

This is expressly proven be certain experiment of this art, for all metals and minerals are incinerated and calcined in their own ways, as if by the resolution of their substance they are reduced to the nature of earth. But then they are resolved by techniques of art into a water, then into air through vapor and smoke, and presently through the resolution of their smoke they are reduced to the nature of water; then they are solidified by cooking into a powder or earth, and finally, having been fused by a strong fire, they return to their own original nature of whatever mineral body of metal. But if there were a complete resolution to the simple element and not to certain mineral or metallic principles which are nearer then the first simple bodies, the metal or such and such a body would no more return from them upon [its exposure] to fire than anything else made up of the simple elements, and gold would no more return from gold than would stone of wood [return from gold], especially since fire is a common agent, behaving alike towards all and each. But since these [metals and minerals] return just the same as before, it is manifest that they were only resolved to certain components of theirs and not to the simple elements or to the prime matter, as those aforesaid [philosophers] mistakenly assert.

V. Secrecy and Metaphor

1. Motivations for obscurity
2. Decknamen, Dispersion, Syncope and Parathesis
3. Eireneaus Philalethes, *Exposition upon the First Six Gates of Sir George Ripley’s Compound of Alchymie* (1678)
4. The tree of Hermes

VI. Conclusion and Terminology

1. Chymistry
2. Chrysopoeia
3. Iatrochemistry
4. Practical chemistry
5. Theoretical understanding
Further Reading


