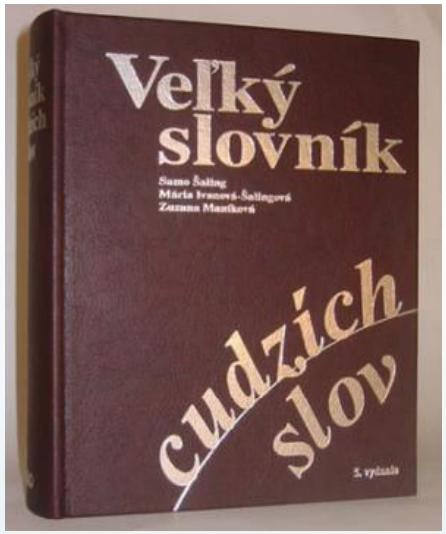
Alchýmia a mágia vs. veda?



Alchýmia –ie ž. (arab.) stredoveká nevedecká chémia, ktorá chcela objaviť umelú výrobu zlata, elixír života, kameň mudrcov ap.

titulná strana poslednej edície *Physica Subterranea* od Johanna Joachima Bechera (Lipsko, 1738)

Zdroj: Greenberg A. (2007): From Alchemy to Chemistry in Picture and Story, Wiley.

Zdroj:
Greenberg A. (2007): From Alchemy to Chemistry in Picture and Story, Wiley.

„Sú biotechnológie novou alchýmiou?“ Henry Nicholls

Studies in History and Philosophy of Science 40 (2009) 70–80

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journal homepage: www.elsevier.com/locate/shpsa

Is biotechnology the new alchemy?

Georgiana Kirkham

Discipline of Philosophy, School of Humanities, The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009, Australia

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Notions of nature

ABSTRACT

In this article I examine similarities between the science and ethics of biotechnology on the one hand, and those of alchemy on the other, and show that the understanding of nature and naturalness upon which many contemporary ethical responses to biotechnology are predicated is, in fact, significantly similar to the understanding of nature that was the foundation of the practice of alchemy. In doing so I demonstrate that the ethical issues and social responses that are currently arising from advances in the field of biotechnology are interestingly similar to those that arose in reaction to the practice and prevalence of alchemy from its inception in Europe in the mid-twelfth century until at least the early modern period. I argue that a proper conception of the ethical issues and a sensible interpretation of the power and the promise of the science of biotechnology are most likely if we understand such attitudes to nature, and to the ethical issues surrounding technological and scientific developments, in terms of an historical and cultural continuum. That is, we should regard biotechnology as merely the latest in a string of technological and scientific developments rather than, as is often alleged, as something entirely new, requiring its own special ethical response. Finally, I suggest that examining the parallels between the ethical issues generated by alchemy and by biotechnology show us that such issues are best situated and discussed within a framework of virtue ethics, as it allows us to think seriously about the relationship between art and nature and the proper role of humans in relation to their technology.

alchymista ➧ prírodný filozof ➧ „vedec“

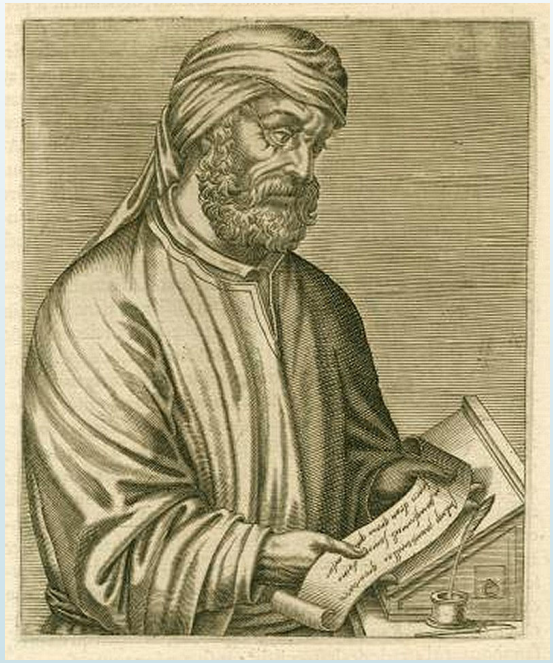
Zdroj:
http://www.lazzarotti-hires.com/2017/12/25/here-are-the-ways-a-scientist-can-use-statistics-in-their-research/
Read, J. (2011): From Alchemy to Chemistry. Dover Science Books

Zdroj:
http://www.apvv.sk

Prometeus a Azazel

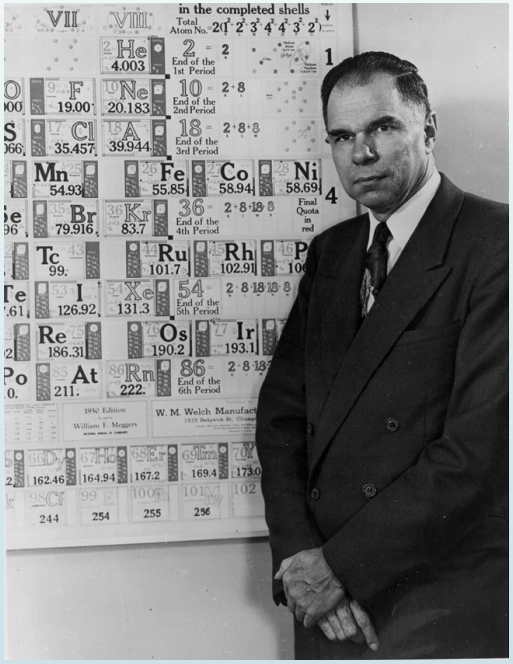
Zdroj:
https://simple.wikipedia.org/wiki/Prometheus#/media/File:Rubens_-_Prometheus_Bound.jpg
https://perditanovel.com/mythology-and-perdita/

Tertullianus z Kartága (160-220)



Zdroj:
https://sk.wikipedia.org/wiki/Tertullianus
http://www.freakingnews.com/Purple-Milka-Chocolate-Cow-Pics-31046.asp

Transmutácia a **Glenn T. Seaborg**

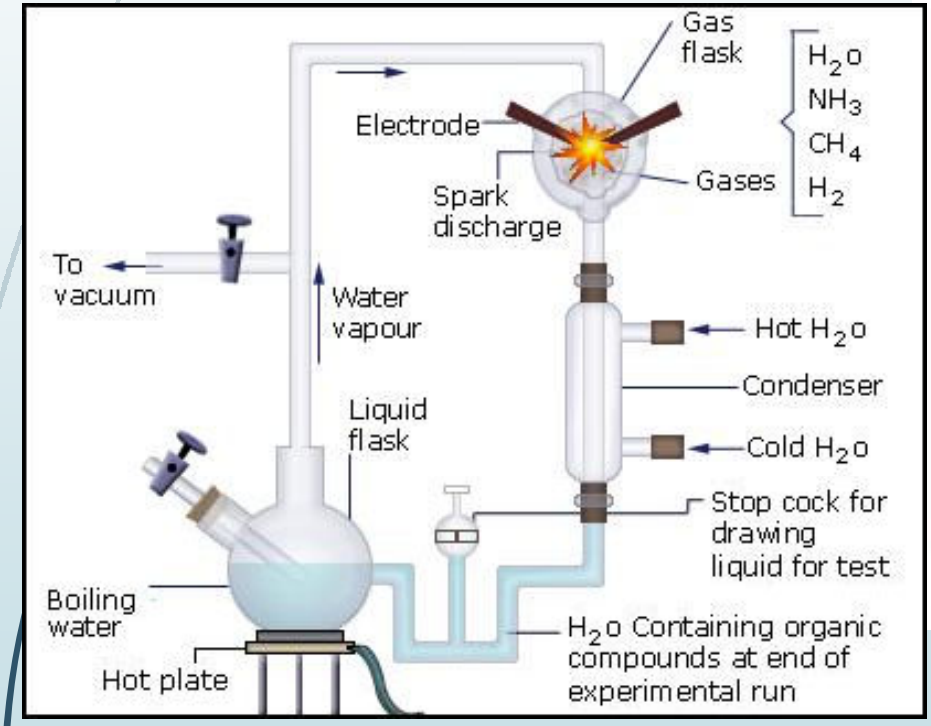


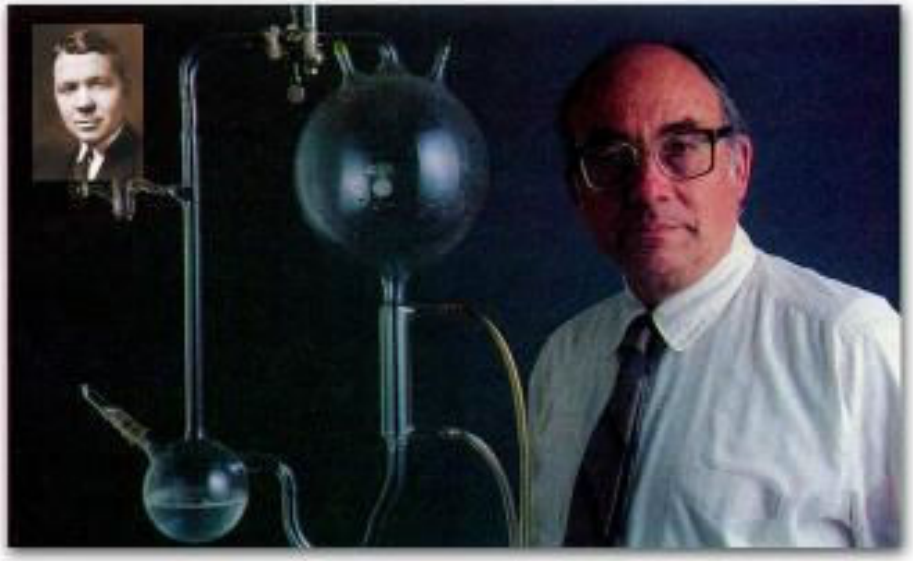
Zdroj:
https://en.wikipedia.org/wiki/Glenn_T._Seaborg
http://edition.cnn.com/2017/10/16/world/neutron-star-collision-gravitational-waves-light/index.html

A Production of Amino Acids Under Possible Primitive Earth Conditions

Stanley L. Miller[1, 2]
G. H. Jones Chemical Laboratory, University of Chicago, Chicago, Illinois

The idea that the organic compounds that serve as the basis of life were formed when the earth had an atmosphere of methane, ammonia, water, and hydrogen instead of carbon dioxide, nitrogen, oxygen, and water was suggested by Oparin (*1*) and has been given emphasis recently by Urey (*2*) and Bernal (*3*).



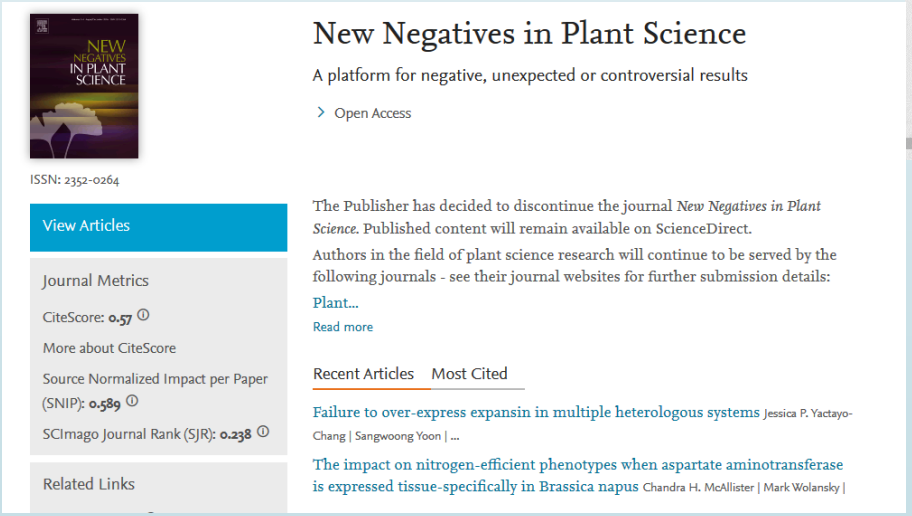


Stanley Miller & Harold Urey (Inset)

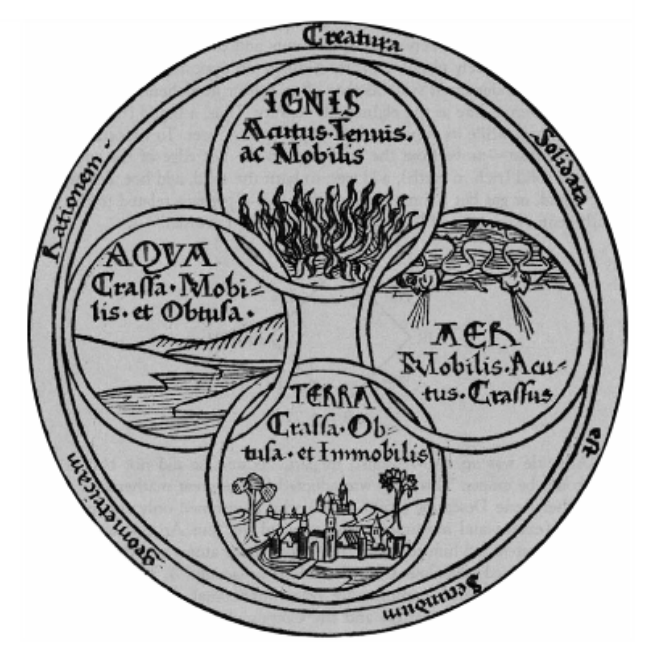
Zdroj:
http://www.tutorvista.com/content/biology/biology-iii/origin-life/experimental-evidence.php

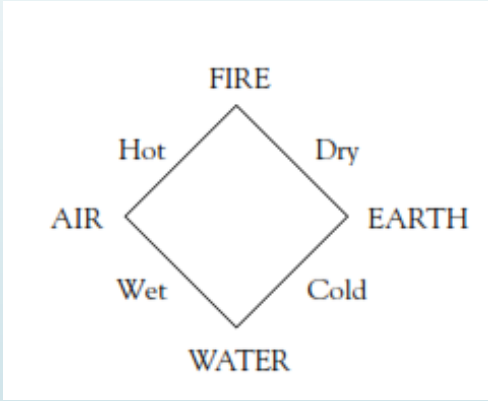
Robert Boyle (1627-1691)

„otec modernej chémie (*chymistry*)“ a politik, ktorý legalizoval alchýmiu v Anglicku, za ktorú bol trest smrti

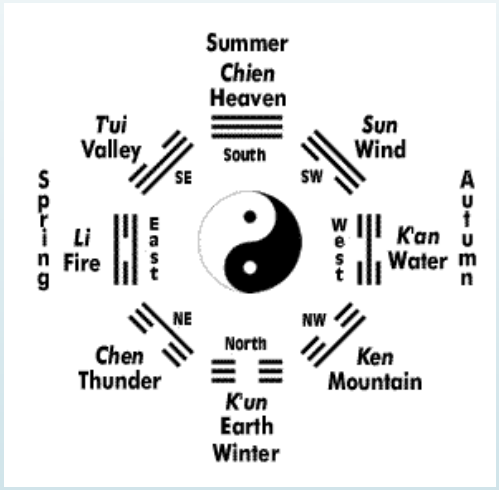


Zdroj:
https://fineartamerica.com/featured/6-robert-boyle-1627-1691-granger.html





Zdroj:
Greenberg A. (2007): From Alchemy to Chemistry in Picture and Story, Wiley



Zdroj:
https://en.wikipedia.org/wiki/Galen
http://www.egreenway.com/taichichuan/trigram.htm

Paracelsus

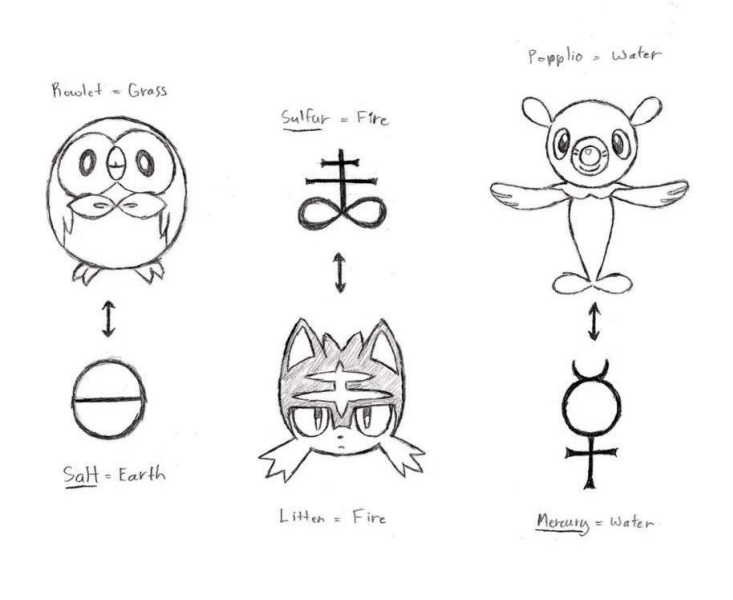
(Theophrastus Bombastus von Hohenheim) (1493-1541)

„...achieved spectacular cures...managed spectacular kills...“

zakladateľ iatrochémie

Zdroj:
https://www.thefamouspeople.com/profiles/paracelsus-142.php

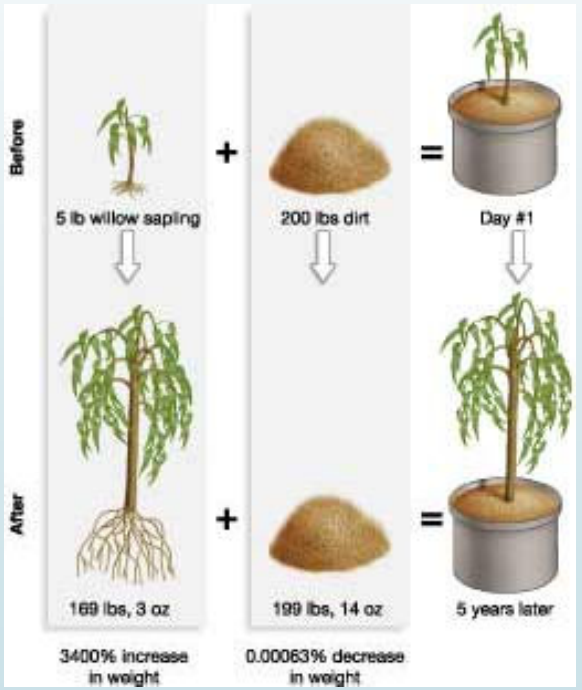
Abú Músá Džábir ibn Hajján (721?-815?)



Johann Joachim Becher (1635-1682)

Zdroj:
https://aminoapps.com/c/pokemon/page/blog/alola-starters-three-alchemical-principles/Vkh7_u5P5vEMox6eZdarvJkQrPDeEp
https://www.pexels.com/photo/fire-hell-inferno-flame-9328/

Jan Baptist van Helmont (1580-1664)



Zdroj:
https://en.wikipedia.org/wiki/Jan_Baptist_van_Helmont
http://slideplayer.com/slide/7669247/

Georg Ernst Stahl (1659 –1734)

Opovrhoval mechanistickou predstavou premeny látok

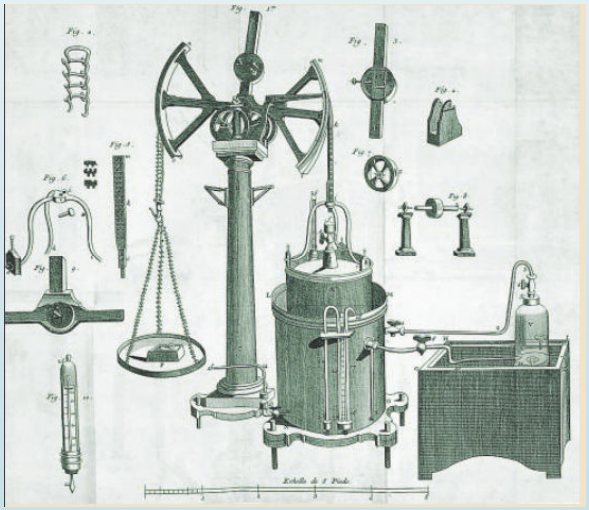
Zastával princíp troch princípov Zeme

Vysvetlil princíp „horenia“ a „korózie“

Zdroj:
https://en.wikipedia.org/wiki/Georg_Ernst_Stahl

Antoine Laurent Lavoisier (1743-1794)

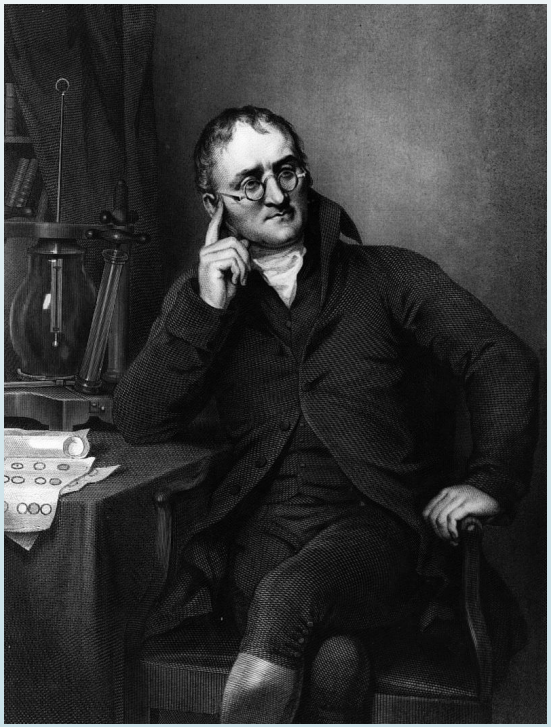
chemistry is a French science, invented by Lavoisier (Wurtz's dictionary of chemistry in mid nineteenth century)



Zdroj:
Greenberg A. (2007): From Alchemy to Chemistry in Picture and Story, Wiley.
https://fr.wikipedia.org/wiki/Antoine_Lavoisier

...je ľahšie stvoriť novú planétu?...alebo deštruovať atóm vodíka?... (meteorológ Dalton)

John Dalton
(1766-1844)



Humphry Davy
(1778-1829)

Zdroj:
https://sk.wikipedia.org/wiki/John_Dalton
https://sk.wikipedia.org/wiki/Humphry_Davy

Elektrochemický dualizmus (Jöns Jakob Berzelius 1779-1848)

Más electronegativo			
Oxígeno	Carbón	Paladio	Cadmio
Azufre	Antimonio	Mercurio	Zinc
Nitrógeno	Teluro	Plata	Manganeso
Radical muriático	Tántalo	Cobre	Aluminio
Radical fluórico	Titanio	Níquel	Ytrio
Fósforo	Silicio	Cobalto	Berilio
Selenio	Osmio	Bismuto	Magnesio
Arsénico	Hidrógeno	Estaño	Calcio
Molibdeno	Oro	Zirconio	Estroncio
Cromo	Iridio	Plomo	Bario
Tungsteno	Rodio	Cerio	Sodio
Boro	Platino	Uranio	Potasio
			Más electropositivo

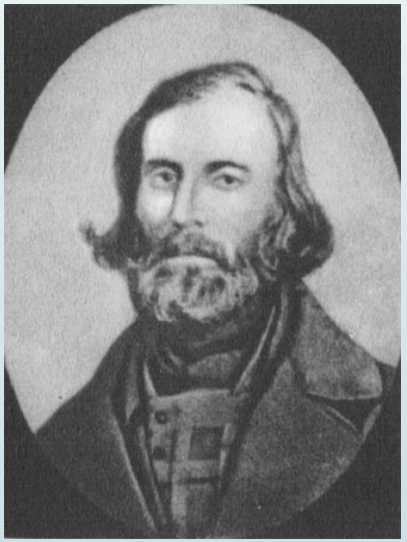
Zdroj:
https://commons.wikimedia.org/wiki/File:J%C3%B6ns_Jakob_Berzelius.jpeg

...nástup organickej chémie... cez pot a slzy...

„učebnice“ 1830

- Hlavné organické látky:
  - mukóza
  - Fibrín
  - želatína
  - Albumín
  - (krv)
  - (chýmus)

Auguste Laurent (1807-1853)



Zdroj:
https://en.wikipedia.org/wiki/Auguste_Laurent

...záver?

a krátke zamyslenie... o budúcnosti chémie