



Νιτρον – An etymology of nitrogen and other related words

JORGE E. CORREDOR

University of Puerto Rico, Department of Marine Sciences, Mayaguez, PR 00680, Puerto Rico

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Nitrogen, ammonium, diazo salts and *diazotroph* are words in common use by scientists, yet few of those concerned with nitrogen research are aware of their etymology. This note is intended to address the issue.

Perhaps the most ancient word related to nitrogen is “nitre,” the name for its sodium salt known in modern times as sodium nitrate and in earlier days as salt peter. Most dictionaries trace this word from the Greek “*νιτρον*” through the latinized form “*nitrum*”. Some, however, would ascribe a more ancient origin to the root arising from the Egyptian and rendered as “*ntry*”.

The word “*ammonium*” has a similarly remote etymological origin. During the final centuries of the Roman empire, Greco-Roman influence had extended throughout the Mediterranean region, reaching as far as Egypt and Libya. This influence was so pervasive that the major Greco-Roman and Egyptian gods were, in some cases, fused into one deity, as was the case for Jupiter-Ammon, the king of Greco-Roman gods; and, as Amen Ra, king of gods and god of the sun for the Egyptians. At this time, there existed a temple dedicated to the god in Lybia where “ammoniacal” salts were first extracted. Although there are different versions as to the precise extraction process, both have to do with camels. Mendeleeff (1905) states that the salts were extracted from the soot accumulated from the burning of camel dung, while Webster’s Dictionary of Word Origins (1991) holds that camel urine from a cesspool near the temple was heated with soot and seasalt to form sal ammoniac; the “salt of Ammon”. Today, we use the root not only to designate the salts, but also in words which relate to compounds containing the parent gas *ammonia* and its organic derivatives, the *amino* compounds.

Until the eighteenth century, air was considered to be a single gas. At this time, the experiments of Priestly and, more forcibly, those of Lavoisier, demonstrated that, upon combustion, a fraction of the air was consumed, but a much larger fraction remained unaffected by combustion (the original

discovery of the gas is, however, attributed to Scheele in 1772, who distinguished between “foul air” and “fire air,” and to Rutherford concurrently or soon thereafter). The gas remaining after combustion was, in any case, shown by Lavoisier to be incapable of supporting life, hence being termed the “*a-zoic*” gas. Lavoisier’s original terminology persists in the French name for the gas, “*azote*,” and in English and other languages in words such as “*diazotroph*”, an organism capable of consuming molecular nitrogen (a compound word using the French diazo root combined with the Greek to signify “eater of nitrogen”), and “*diazo*” compounds, those incorporating two double-bonded nitrogen molecules.

The word “*nitrogen*” itself was first coined in 1790 by Chaptal and remains the word of preference for naming the gas in many of the romance languages. The word arises from the Greek roots for “*generator of nitre*”.

References

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