

A Commentary on Toxicology in the Arabic Civilization

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The topic of poisons was of great interest in both antiquity and the medieval world, generating its own body of literature. Galen and Dioscorides were considered ancient authors on that subject, and many previous treatises on the subject were attributed to them. Numerous Arabic writers discussed poisons and the antidotes for them (Tschanz 2003, 12). Snakes, dog' bites as well as the ill effects of scorpions, spiders and other animals were a cause of great concern. On the parallel aspect of toxicology knowledge, while the poisonous properties of various minerals and plants were exploited, the criminal poisoning was reported through the history in many geographical places. The use of toxic foods or beverages was well known in this field, although the killing in Judaism, Christian and Islam religions is forbidden, many incidents were reported in biographical books. Therefore, because of that, both Umayyad and Abbasid Caliphs were afraid of being poisoned, and they always hired a confident specialist for their nutrition (al-Bābā 1980, 71).

During the golden era of Arabic medicine, the medical encyclopedias like “*al-Qānūn fī-l-Ṭibb*” book by Avicenna (d. 1037AD) and “*Kitāb al-Mukhtārāt fī-l-Ṭibb*” book by Ibn Hubal (d. 1213AD) contained chapters on poisons. In addition, the authors of Materia medica books took care the poisons within their books, the famous Andalusian botanist Ibn al-Bayṭār (d. 1245AD) (who wrote an important text about simple drugs “*Kitāb al-Jāmi li-mufradāt al-adwīya wa-l-aghdhīya*”; he mentioned the symptoms of some botanical poisons and their treatment. However, in the beginning of this golden era of Arabic civilization, the most important toxicology booklet was “*Kitāb as-Sumūm*” attributed to Shānāq, the Indian physician who was very famous in wisdom and toxicology and because of that, he was close to the Indian kings and was alive circa 300 BC (Ibn Abī Uṣaybi'a 1965, 474; Salāmih 2014). The text discusses poisons and how they can be detected by sight, touch, taste, or by the toxic symp-

toms which they cause. Descriptions are given of poisoned drinks, foods, clothes, carpets, beds, skin lotions and eye salves, as well as narcotics and universal antidotes. Kings were said to guard the book, keeping it in their treasure cabinets, hidden from their children and friends (Tschanz 2003, 12). Indeed, we could say that Shānāq was as important to toxicology studies as Dioscorides was for materia medica knowledge in the history of Arabic medicine.

In addition to Shānāq's booklet, specific writings on poisons and their treatment appear in the Arabic civilization. Jābir ibn Ḥayyān (d. 815 AD) might be the first person who categorized poisons in the Arabic medicine, where one of his medical books was on poisons and their antidotes "*Kitāb as-Sumūm*". Jābir in his book identified poisons by their kinds, natural origins, their modes of action, dosages, methods of administration, choice of drugs, and the targeted organ that is attacked by each particular poison (Tschanz 2003, 13). Moreover, Ibn Waḥshīyyah (d. 930 AD), who was a Nabataean agriculturalist and toxicologist, said about Jābir's book that: "it is a great work...it is a wonder" (Haq 1994, 4).

However, the most comprehensive toxicological text was "*Kitāb al-Munqidh min al-halakah fī daf maḍārr al-sumūm al-muhlikah*" (The Savior from Demise and on Withstanding the Harms of Deadly Poisons, written in 488/1095) by Ibn al-Mubārak (Al-Ḥasan ibn Abī Tha'lab ibn al-Mubārak) who wrote this book in three essays. Although M. Ullmann established the lifetime of Ibn al-Mubārak to be belong to the 5th/11th century, but unfortunately, details about his biography are unavailable (Khalīfah 1941, 2:1869). Actually, this book works as a complete text on the potential causes of poisoning where the author speaks on all kinds of toxic food such as, fruits, vegetables, toxic flowers, and different kinds of mineral poisons. Moreover, he describes many animals which have toxic bites, and then he mentions their possible antidotes. Unfortunately, a critical edition of this book is unpublished yet, despite many copies of this manuscript are available worldwide in libraries like library of congress, Chester Beatty library, and others.

Ibn al-Mubārak says that his book is very important for anyone who wants to avoid being poisoned, he also mentions that his main source came from an Indian book but he did not name the source, which I suppose to be the previous Shānāq book, anyway, as mentioned, he divides his book into three essays:

- **First essay:** Ibn al-Mubārak mentions the symptoms of poisons inserted within usable things like food, this method was used to kill Kings and Noblemen, therefore he writes how to prevent their damages and prepare their antidotes. Moreover, he discusses the symptoms that help to identify which kind of poison is used within the toxic foods, and hence he divides the treatise according to the different kinds of food such as meat, sweets, cheese, fruits, and aromatic plants. Finally, he gives some recipes of antidotes which could be useful for all these poisons (Ibn al-Mubārak, folio 12).

- **Second essay:** Ibn al-Mubārak presents the symptoms which indicate how a person is poisoned by simple poisons such as animals (the gallbladder of leopards, the venom of snakes and scorpions, and the blood of some animals), or plants (such as wolf's bane, cowbane, all kinds of henbane, and devil's trumpet), or mineral (such as gold, silver, lead, iron, and mercury). It is notable that he always mentions the test for the reality of each poison, and then its treatment and antidotes (Ibn al-Mubārak, folio 119).
- **Third essay:** it could be the most interesting part of this manuscript in which Ibn al-Mubārak speaks on different kinds of toxic snakes, and the variances between them. Moreover, he categorizes them according to months in a year (snakes which are toxic in July or August etc.), then he completes with the other toxic animals like scorpions, bees, and ants (Ibn al-Mubārak, folio 177).

To conclude this commentary, I would say that toxicology in Arabic medicine at the beginning of its golden era was deeply influenced by the Indian source of Shānāq. Afterward the medical Arabic encyclopedias discussed toxins, until writers composed specific books on toxicology. In particular Ibn al-Mubārak who authored a brilliant book on toxicology “*Kitāb al-Munqidh min al-halakah*” which, basing upon its contents, might work as a full encyclopedia for toxicological sciences during the Arabic civilization. (See below the cover page of this manuscript, a copy of Library of Congress).



Cover Page “Kitāb al-Munqīdh min al-halakah fī daf maḍārr al-sumūm al-muhlikah”

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