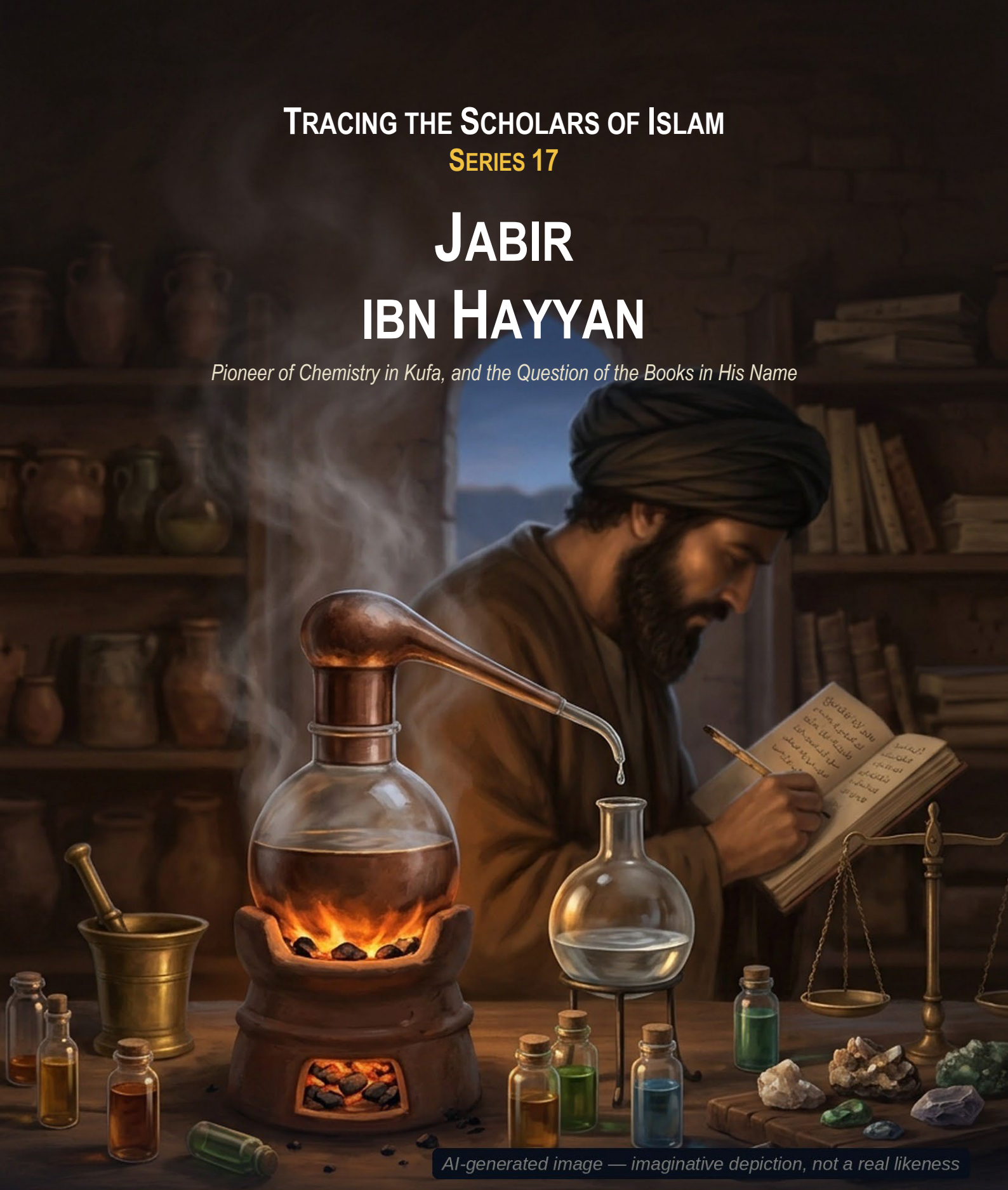
TRACING THE SCHOLARS OF ISLAM

SERIES 17

JABIR IBN HAYYAN

Pioneer of Chemistry in Kufa, and the Question of the Books in His Name



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TRACING THE SCHOLARS OF ISLAM

SERIES 17

JABIR IBN HAYYAN

Pioneer of Chemistry in Kufa, and the Question of the Books in His Name

لَقَدْ أَرْسَلْنَا رُسُلَنَا بِالْبَيِّنَاتِ وَأَنْزَلْنَا مَعَهُمُ الْكِتَابَ وَالْمِيزَانَ لِيَقُومَ النَّاسُ بِالْقِسْطِ وَأَنْزَلْنَا الْحَدِيدَ فِيهِ بَأْسٌ شَدِيدٌ وَمَنَافِعُ لِلنَّاسِ وَلِيَعْلَمَ اللَّهُ مَنْ يَنْصُرُهُ وَرُسُلَهُ بِالْغَيْبِ إِنَّ اللَّهَ قَوِيٌّ عَزِيزٌ

"We have already sent Our messengers with clear evidences and sent down with them the Scripture and the balance that the people may maintain [their affairs] in justice. And We sent down iron, wherein is great military might and benefits for the people, and so that Allah may make evident those who support Him and His messengers unseen. Indeed, Allah is Powerful and Exalted in Might."

SURAH AL-HADID 57:25

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ACKNOWLEDGEMENT

All praise is due to Allah, who created iron and every substance on earth with many benefits for mankind. Blessings and peace be upon the Messenger of Allah ﷺ, and upon his family and his Companions.

This eBook is specially dedicated to my beloved wife,

ZAHARAH MOHD LATIF;

my dear children,

MUHAMMAD HAFIZ, NOOR HAZWANI, ABDUL HAKIM, NOOR HIDAYAH, NOR AQILA and **NOR ATIQAH**;

and my sons- and daughters-in-law,

FAZILAH, MALEK, HANIN, FAIRIZAL and **FIRWAN**.

This seventeenth book of Tracing the Scholars of Islam opens a new group: the scientists. We begin with the name linked to the beginnings of chemistry, Jabir ibn Hayyan — while learning to distinguish what is certain from what historians are still examining.

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ABOUT THE COVER OF THIS EBOOK

The cover of this eBook is an **image generated by artificial intelligence (AI)** — an ***imaginative depiction, not a real likeness*** of Jabir ibn Hayyan. This label is also printed on the cover. This time we look **from table level**, through laboratory apparatus, and the figure is seen **from the side** behind it.

In the foreground is a copper and glass **distillation apparatus (al-anbiq)** on a glowing **clay furnace** — drops of liquid fall into a flask. Around it are **bottles of coloured liquids**, a **brass mortar**, a **balance** and **mineral stones** — symbols of the classification of substances and the "science of the balance" in the books attributed to him.

Behind, he is **recording his observations** in a notebook, with **shelves of jars and manuscripts** and a window onto the evening sky of **Kufa**.

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Colour guide: green box = verses of the Qur'an; gold box = Hadith; brown box = history note (reports from the books of history and biography); blue table = comparison. Underlined blue narrator names can be clicked to open the narrator's page on sunnah.com.

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JABIR IBN HAYYAN

The seventeenth book of **Tracing the Scholars of Islam** opens the group of **scientists**, beginning with ***Abu Musa Jabir ibn Hayyan al-Kufi***. His name is linked to the beginnings of ***chemistry***: distillation, crystallisation, the classification of substances and an emphasis on ***laboratory work***. In Europe he was known as ***"Geber"***.

Jabir's story is unusual: modern historians ***still disagree*** about who actually wrote the hundreds of books in his name. This eBook presents what is known, what is disputed, and the lessons from both.

We will explore ***the age of Kufa and Baghdad***, the contents of the books attributed to Jabir, the ***laboratory apparatus and processes*** they describe, his ***intellectual heirs*** such as Abu Bakr al-Razi, the journey of this knowledge to Europe, and the view of ***modern science*** on the old theories. We will also see how the Qur'an mentions ***metals and smelting technology***.

Note: The translation of Qur'anic verses in this eBook is that of Sahih International. The grading of each Hadith is stated in the Hadith box. Information from books of history and modern research is **biographical report (not Hadith)** *and is placed in the brown "History Note" boxes. A cover image that shows the scholar is an AI-generated image and is marked as such. Jabir's dates are estimates from the traditional account.*

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IRON AND THE BALANCE

SURAH AL-HADID 57:25

لَقَدۡ أَرۡسَلۡنَا رُسُلَنَا بِٱلۡبَيِّنَٰتِ وَأَنزَلۡنَا مَعَهُمُ ٱلۡكِتَٰبَ وَٱلۡمِيزَانَ لِيَقُومَ ٱلنَّاسُ بِٱلۡقِسۡطِۖ وَأَنزَلۡنَا ٱلۡحَدِيدَ فِيهِ بَأۡسٞ شَدِيدٞ وَمَنَٰفِعُ لِلنَّاسِ وَلِيَعۡلَمَ ٱللَّهُ مَن يَنصُرُهُۥ وَرُسُلَهُۥ بِٱلۡغَيۡبِۚ إِنَّ ٱللَّهَ قَوِيٌّ عَزِيزٞ ٢٥

We have already sent Our messengers with clear evidences and sent down with them the Scripture and the balance that the people may maintain [their affairs] in justice. And We sent down iron, wherein is great military might and benefits for the people, and so that Allah may make evident those who support Him and His messengers unseen. Indeed, Allah is Powerful and Exalted in Might.

Translation: Sahih International — quran.com/57:25

EXPLANATION OF VERSE 57:25

Allah tells us: ***"And We sent down iron, wherein is great military might and benefits for the people"***. The substances of the earth were created to be used for benefit, and chemistry is the effort to understand their properties. Tafsir Ibn Kathir 57:25.

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The Qur'an also stresses ***accurate weighing***:

SURAH AR-RAHMAN 55:7–9

وَٱلسَّمَآءَ رَفَعَهَا وَوَضَعَ ٱلْمِيزَانَ ۝٧

And the heaven He raised and imposed the balance.

أَلَّا تَطْغَوْا۟ فِى ٱلْمِيزَانِ ۝٨

That you not transgress within the balance.

وَأَقِيمُوا۟ ٱلْوَزْنَ بِٱلْقِسْطِ وَلَا تُخْسِرُوا۟ ٱلْمِيزَانَ ۝٩

And establish weight in justice and do not make deficient the balance.

Translation: Sahih International — quran.com/55:7-9

In the books attributed to Jabir there is a method called ***'ilm al-mizan*** (the science of the balance) — an effort to understand substances through ***measurement and proportion***. Accurate weighing is the foundation of science, just as it is the foundation of justice.

EVERYTHING ACCORDING TO MEASURE

SURAH AL-QAMAR 54:49

إِنَّا كُلَّ شَىْءٍ خَلَقْنَٰهُ بِقَدَرٍ ۝٤٩

Indeed, all things We created with predestination.

Translation: Sahih International — quran.com/54:49

Allah created everything ***in due measure***. Modern chemistry discovered that elements combine in ***fixed proportions by mass*** — the principle known as the ***law of definite proportions*** (Britannica: law of definite proportions). The verse invites us to see the order of creation, and chemistry is one way of witnessing it. Tafsir Ibn Kathir 54:49.

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THE AGE: KUFA AND BAGHDAD

According to the traditional account, Jabir ibn Hayyan lived through ***the transfer of power from the Umayyads to the Abbasids*** (132 AH / 750 CE). Kufa was then an important ***city of learning***: a centre of Qur'anic recitation, fiqh, grammar and Hadith. Soon afterwards, Caliph ***Abu Ja'far al-Mansur*** built ***Baghdad*** (145 AH / 762 CE), which became the centre of the Muslim world.

> **HISTORY NOTE: THE TRANSLATION MOVEMENT AND PAPER**
>
> The historical works record that in the Abbasid era, Greek, Persian and Indian books were ***translated into Arabic*** on a large scale, especially in the reigns of Caliph ***Harun ar-Rashid*** and ***al-Ma'mun***, supported by the institution known as ***Bayt al-Hikmah*** (the House of Wisdom).
>
> After the Battle of Talas (751 CE), the technique of ***paper-making*** from China spread to the Muslim world, and paper mills were built in Baghdad by the late 8th century CE. Cheap paper made books easier to write and to spread.

WHY DID THIS AGE MATTER?

A combination of ***political stability, patronage, abundant reading material and cheap paper*** created fertile ground for science. In this setting arose scientists such as Jabir, al-Khwarizmi and al-Kindi. The lesson: knowledge flourishes when society ***values books and makes them accessible***.

BAYT AL-HIKMAH AND THE TRANSLATION MOVEMENT

To understand the Jabirian corpus we must understand the ***translation movement*** that ran in Baghdad for about two centuries. The books of ***Aristotle, Galen, Euclid and Ptolemy***, along with Indian and Persian works, were translated into Arabic.

> **HISTORY NOTE: THE TRANSLATORS AND THEIR PATRONS**
>
> Caliph ***al-Ma'mun*** (d. 218 AH / 833 CE) is known for supporting translation and scholarly debate. The famous translator ***Hunayn ibn Ishaq*** translated dozens of Galen's medical works, comparing several original manuscripts.
>
> The ***Banu Musa ibn Shakir*** — three brothers who were mathematicians and engineers — funded translations and wrote their own works on mechanics, including the ***Kitab al-Hiyal*** (Book of Ingenious Devices).

MORE THAN TRANSLATION

Muslim scholars did not merely copy. They ***checked, criticised and added to*** the knowledge they translated. In chemistry, Greek theories of the four elements (fire, air, water, earth) were combined with ***practical laboratory work***, giving rise to a new tradition that later reached Europe.

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The lesson: Muslims confident in their faith ***need not fear knowledge from outside***; they filter it with the balance of revelation and reason, and take what is beneficial.

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WHO WAS JABIR IBN HAYYAN?

According to the ***traditional account***, Jabir ibn Hayyan lived around ***721–815 CE***, spending most of his life in ***Kufa***, Iraq. Ibn al-Nadim says he came from Khurasan. The books in his name call ***Imam Ja'far as-Sadiq*** his teacher, and link him to the ***Barmakid*** family in the time of Caliph Harun ar-Rashid.

His full name according to these sources was ***Abu Musa Jabir ibn Hayyan al-Azdi al-Kufi***. The title ***as-Sufi*** also appears in some sources. His father, ***Hayyan***, is described as a ***druggist (al-'attar)*** in Kufa.

HISTORY NOTE: BETWEEN THE TRADITIONAL ACCOUNT AND HISTORICAL RESEARCH

The earliest source listing Jabir's books is ***al-Fihrist*** by ***Ibn al-Nadim*** (987 CE). He records that some people doubted Jabir's existence, but ***he himself rejected that doubt***.

In 1942–1943 the scholar ***Paul Kraus*** studied hundreds of books in Jabir's name and argued that they were ***written by many authors*** around ***850–950 CE***, based on differences in style and content. Other scholars, such as ***Fuat Sezgin***, disputed that dating. The question ***remains open*** today.

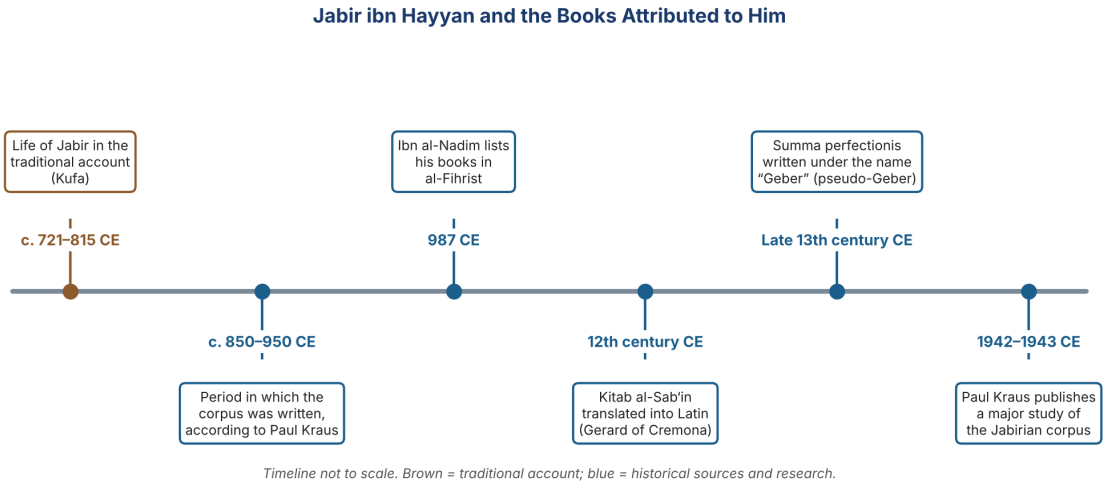


Figure 1: Jabir ibn Hayyan and the books attributed to him.

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HIS FAMILY AND THE CITY OF KUFA

HISTORY NOTE: A FATHER WHO WAS KILLED, A SON RAISED IN KUFA

According to the traditional account, Jabir's father, ***Hayyan al-Azdi***, was a ***druggist ('attar)*** in Kufa who supported the ***Abbasid movement*** against Umayyad rule. He is said to have gone to ***Khurasan*** for that cause, where he was ***arrested and executed***.

The young Jabir is said to have been sent to his relatives of the ***Azd*** tribe in ***Yemen***, where he studied the Qur'an, mathematics and other sciences, before returning to ***Kufa***. This story is reported in later sources and cannot be fully verified.

KUFA: A CITY OF SCHOLARS

Kufa was founded in the time of Caliph ***'Umar ibn al-Khattab*** رضى الله عنه (17 AH) as a garrison town, and grew into a centre of learning. It produced ***Imam Abu Hanifah*** (see Book 4), Qur'an reciters such as ***'Asim*** and ***Hamzah***, and grammarians of the Kufan school such as ***al-Kisa'i***. This rich scholarly environment is the backdrop to Jabir's story.

LESSON: AN ORPHAN AND KNOWLEDGE

Like several other figures in this series, Jabir is portrayed as ***a child who lost his father*** at a young age. Loss need not keep a person from knowledge when there is ***family and community*** to care for and educate him.

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THE QUESTION OF AUTHORSHIP: ONE AUTHOR OR MANY?

Why do historians disagree about the books of Jabir? The table below summarises the main arguments on each side.

VIEW	MAIN ARGUMENTS
The corpus was written by many later authors (Paul Kraus)	Too many books for one person; some terms and ideas appear only after the translation era; references to events and currents of thought of the 3rd and 4th centuries AH.
The core of the corpus comes from Jabir in the 2nd century AH (Fuat Sezgin and others)	Ibn al-Nadim accepted his existence; some books may be original and later expanded by students and followers.
A middle view	There may have been a historical Jabir, but most books in his name were written by a school of followers who attributed their works to him.

HOW SHOULD WE RESPOND?

Historians do not deny the ***scientific value*** of these books. What is questioned is ***who*** and ***when***. The fair approach is to speak of ***"the books attributed to Jabir"*** or ***"the Jabirian corpus"***, and not to assert what is not yet certain.

This mirrors the discipline of Hadith scholars, who distinguish between ***a good text (matn)*** and ***an authentic chain (sanad)***. Beneficial content does not by itself prove that it came from a particular person.

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THE MAJOR BOOKS AND THE SCIENCE OF THE BALANCE

Ibn al-Nadim lists ***hundreds of titles*** in Jabir's name. Modern scholars group them into several large collections. The table below lists some of the most important.

BOOK / COLLECTION	DESCRIPTION
Kitab al-Rahmah al-Kabir	One of the earliest books in the corpus; discusses the preparation of the "elixir".
The 112 Books	An early collection on practical and theoretical chemistry.
The Seventy Books	Translated into Latin as Liber de Septuaginta.
The Books of the Balances (Kutub al-Mawazin)	Set out the theory of the "science of the balance" on the proportions of qualities in substances.
Kitab al-Khawass al-Kabir	On the special properties of substances, plants and animals.
Kitab as-Sumum	On poisons, their effects and their antidotes.

WHAT IS THE "SCIENCE OF THE BALANCE"?

In the ***Books of the Balances***, every substance is thought to have four basic qualities — ***hot, cold, dry and moist*** — in a particular proportion. That proportion was calculated through ***the letters of the substance's Arabic name***. This method is ***not accepted*** by modern science, but the idea that a substance's properties depend on ***the proportion of its components*** anticipates the spirit of quantitative chemistry.

LESSON

Early scientists strove to ***measure*** and ***calculate***, even with limited tools. We who have modern instruments bear a greater responsibility to ***measure accurately*** and ***judge theories honestly***.

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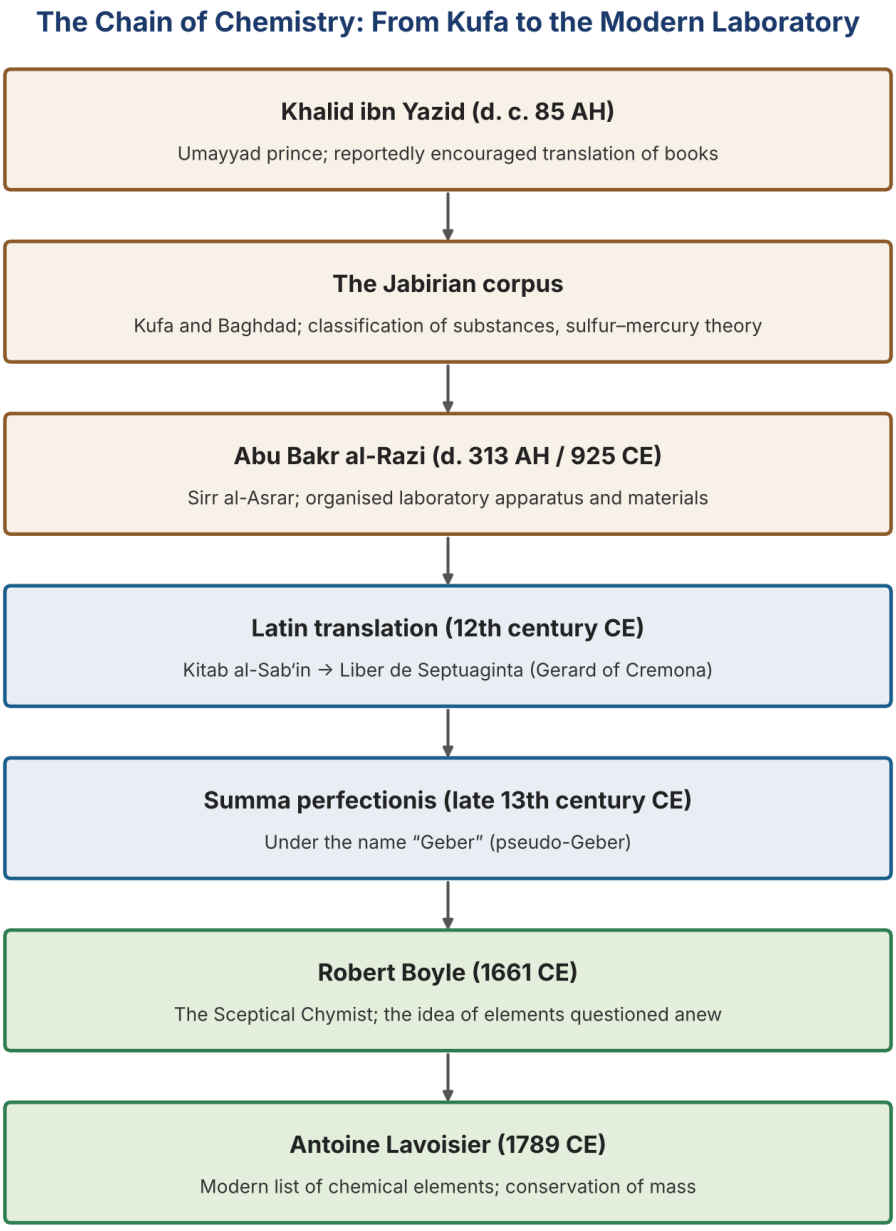
TEACHERS, PATRONS AND THE CHAIN OF KNOWLEDGE

The books attributed to Jabir mention several figures said to be connected with him. Most of this information ***comes from the Jabirian books themselves***, not from independent contemporary sources.

> **HISTORY NOTE: THE FIGURES MENTIONED**
>
> ***Imam Ja'far as-Sadiq*** (d. 148 AH), the great scholar of Madinah, is named as Jabir's teacher. Modern historians treat this claim with caution because it is ***not mentioned in the early biographies*** of Ja'far as-Sadiq.
>
> The ***Barmakid family***, ministers of Harun ar-Rashid, are named as his patrons. The fall of the Barmakids in 187 AH (803 CE) is said to have forced Jabir into hiding in Kufa.
>
> Earlier still, the Umayyad prince ***Khalid ibn Yazid*** (d. c. 85 AH) reportedly encouraged the ***translation of books on chemistry*** and medicine into Arabic. This report is also discussed by historians.

Figure 3 shows how chemistry moved from the Islamic tradition to Europe and then to modern chemistry.

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Simplified diagram. Brown = Islamic tradition; blue = Europe; green = modern chemistry.

Figure 3: The chain of chemistry, from Kufa to the modern laboratory.

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CHEMISTRY BEGINS IN THE LABORATORY

The Jabirian books — among them ***Kitab al-Sab'in***, ***Kitab al-Rahmah*** and ***Kitab al-Khawass al-Kabir*** — contain one of the ***earliest systematic classifications of chemical substances*** (Figure 2), the ***sulfur–mercury theory*** of how metals form, and the ***oldest known instructions*** for producing ***sal ammoniac*** (ammonium chloride) from organic materials.

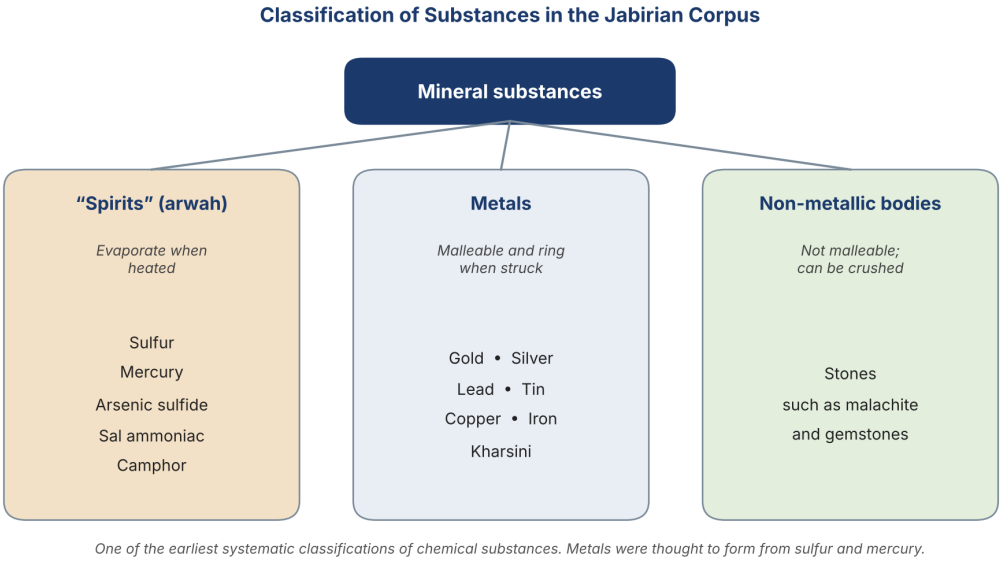


Figure 2: Classification of substances in the Jabirian corpus.

Several scientific words also come from Arabic: ***alembic*** (*al-anbiq*, the distilling apparatus), ***alkali*** (*al-qali*) and ***elixir*** (*al-iksir*).

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Knowledge of substances and nature is gained through ***observation and experiment***. The Messenger of Allah ﷺ himself recognised human experience in worldly matters:

HADITH — SAHIH MUSLIM, NO. 2363

حَدَّثَنَا أَبُو بَكْرِ بْنُ أَبِي شَيْبَةَ، وَعَمْرٌو النَّاقِدُ، كِلاَهُمَا عَنِ الأَسْوَدِ بْنِ عَامِرٍ، - قَالَ أَبُو بَكْرٍ حَدَّثَنَا أَسْوَدُ بْنُ عَامِرٍ، - حَدَّثَنَا حَمَّادُ بْنُ سَلَمَةَ، عَنْ هِشَامِ بْنِ عُرْوَةَ، عَنْ أَبِيهِ، عَنْ عَائِشَةَ، وَعَنْ ثَابِتٍ، عَنْ أَنَسٍ، أَنَّ النَّبِيَّ صلى الله عليه وسلم مَرَّ بِقَوْمٍ يُلَقِّحُونَ فَقَالَ «لَوْ لَمْ تَفْعَلُوا لَصَلُحَ». قَالَ فَخَرَجَ شِيصًا فَمَرَّ بِهِمْ فَقَالَ «مَا لِنَخْلِكُمْ». قَالُوا قُلْتَ كَذَا وَكَذَا قَالَ «أَنْتُمْ أَعْلَمُ بِأَمْرِ دُنْيَاكُمْ».

TRANSLATION:

‘A’ishah رضى الله عنها and Anas رضى الله عنه reported that the Prophet ﷺ passed by some people who were pollinating date palms. He said: “If you did not do it, it would still be fine.” The fruit then came out poor. He passed by them again and asked: “What is wrong with your palms?” They said: “You said such and such.” He said: **“You know best the affairs of your worldly life.”**

CHAIN OF NARRATION: Narrated by Imam Muslim: from Abu Bakr ibn Abi Shaybah and ‘Amr an-Naqid, from al-Aswad ibn ‘Amir, from Hammad ibn Salamah, from Hisham ibn ‘Urwah, from his father ‘Urwah ibn az-Zubayr, from ‘A’ishah, Mother of the Believers رضى الله عنها; and from Hammad, from Thabit al-Bunani, from Anas ibn Malik رضى الله عنه.

REFERENCE: Narrated by Imam Muslim in Sahih Muslim, Book of Virtues (Kitab al-Fada’il), Hadith No. 2363.

GRADE: SAHIH — contained in Sahih Muslim, the second most authentic book of Hadith after Sahih al-Bukhari.

Source: https://sunnah.com/muslim:2363

LESSONS FROM THIS HADITH

In matters of ***agriculture, engineering and science***, people are given room to ***try, observe and learn from experience***. This is the spirit of the laboratory: not theory alone, but tests that can be checked.

OBSERVATION AND EXPERIMENT

The Qur'an repeatedly invites people to ***observe and reflect*** on Allah's creation:

SURAH AL 'IMRAN 3:190–191

إِنَّ فِي خَلْقِ ٱلسَّمَٰوَٰتِ وَٱلْأَرْضِ وَٱخْتِلَٰفِ ٱلَّيْلِ وَٱلنَّهَارِ لَءَايَٰتٍ لِّأُو۟لِى ٱلْأَلْبَٰبِ ﴿١٩٠﴾

Indeed, in the creation of the heavens and the earth and the alternation of the night and the day are signs for those of understanding.

ٱلَّذِينَ يَذْكُرُونَ ٱللَّهَ قِيَٰمًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ وَيَتَفَكَّرُونَ فِي خَلْقِ ٱلسَّمَٰوَٰتِ وَٱلْأَرْضِ رَبَّنَا مَا خَلَقْتَ هَٰذَا بَٰطِلًا سُبْحَٰنَكَ فَقِنَا عَذَابَ ٱلنَّارِ ﴿١٩١﴾

Who remember Allah while standing or sitting or [lying] on their sides and give thought to the creation of the heavens and the earth, [saying], "Our Lord, You did not create this aimlessly; exalted are You [above such a thing]; then protect us from the punishment of the Fire."

Translation: Sahih International — quran.com/3:190-191

People of understanding are those who ***"give thought to the creation of the heavens and the earth"*** while remembering Allah. Reflecting on creation includes studying ***the substances Allah created*** — and that is the chemist's work. Tafsir Ibn Kathir 3:191.

HISTORY NOTE: "PRACTICAL WORK FIRST"

The historian of chemistry ***E. J. Holmyard*** quotes a famous statement from ***Kitab al-Khawass al-Kabir***: the first essential in chemistry is to ***perform practical work and conduct experiments***, for whoever does not do so will never attain mastery.

This statement is often cited as evidence that the Jabirian corpus stressed ***the experimental method***, unlike some Greek traditions that were more philosophical.

LESSON

The modern scientific method — ***observation, hypothesis, experiment and conclusion*** — has roots in the tradition of Muslim scholars who combined ***reflection*** with ***practical work***. Students today are encouraged not only to memorise scientific facts but to ***carry out*** experiments themselves, safely.

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A SIMPLE EXAMPLE

Suppose a student wants to know whether salt makes ice melt faster. She ***observes*** two equal ice cubes, forms a ***hypothesis*** ("salt speeds up melting"), sprinkles salt on one cube only (the ***experiment***), records the time each cube takes to melt, and draws a ***conclusion***. If the result differs from the hypothesis, she ***revises*** it. This simple cycle is the heart of science — and the spirit of "practical work first" found in the Jabirian corpus.

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LABORATORY APPARATUS AND PROCESSES

Arabic books of chemistry describe many ***laboratory processes*** still taught in chemistry today, though with more modern tools. The table below lists the main processes with their Arabic terms.

PROCESS (ARABIC TERM)	DESCRIPTION AND USE
Distillation (at-taqtir)	Heating a liquid into vapour, then cooling it back with the alembic; used for rosewater, perfumes and solvents.
Sublimation (at-tas'id)	Heating a solid so it turns directly into vapour, then collects again as a pure solid; e.g. sal ammoniac and camphor.
Calcination (at-taklis)	Strongly heating a substance until it becomes a powder (calx); used on metals and stones.
Dissolution (at-tahlil)	Dissolving a substance in a liquid to separate or purify it.
Crystallisation (at-ta'qid)	Letting a solution evaporate or cool so that pure crystals form.
Filtration (at-tasfiyah)	Passing a mixture through cloth or another material to separate solids from liquids.

APPARATUS

The apparatus mentioned includes ***the alembic (al-anbiq)***, ***the cucurbit (al-qar'ah)***, ***the aludel*** for sublimation, ***the furnace (al-kur)***, ***mortars***, ***balances*** and various ***glass and clay vessels***. Many historians of science regard the books of Abu Bakr al-Razi (3rd century AH) as the most systematic description of apparatus of that age (Britannica: al-Razi).

DO IT WITH EXCELLENCE

Laboratory work demands ***precision***: exact temperature, time and measurement. Islam teaches that every task should be done in the best way:

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HADITH — SAHIH MUSLIM, NO. 1955

حَدَّثَنَا أَبُو بَكْرِ بْنُ أَبِي شَيْبَةَ، حَدَّثَنَا إِسْمَاعِيلُ ابْنُ عُلَيَّةَ، عَنْ خَالِدٍ الْحَذَّاءِ، عَنْ أَبِي قِلاَبَةَ، عَنْ أَبِي الأَشْعَثِ، عَنْ شَدَّادِ بْنِ أَوْسٍ، قَالَ ثِنْتَانِ حَفِظْتُهُمَا عَنْ رَسُولِ اللَّهِ صلى الله عليه وسلم قَالَ «إِنَّ اللَّهَ كَتَبَ الإِحْسَانَ عَلَى كُلِّ شَىْءٍ فَإِذَا قَتَلْتُمْ فَأَحْسِنُوا الْقِتْلَةَ وَإِذَا ذَبَحْتُمْ فَأَحْسِنُوا الذِّبْحَ وَلْيُحِدَّ أَحَدُكُمْ شَفْرَتَهُ فَلْيُرِحْ ذَبِيحَتَهُ».

TRANSLATION:

Shaddad ibn Aws رضى الله عنه said: Two things I memorised from the Messenger of Allah ﷺ; he said: **"Indeed Allah has prescribed excellence (ihsan) in everything.** So when you kill (where it is permitted), kill well; and when you slaughter, slaughter well. Let each of you sharpen his blade and spare his animal suffering."

CHAIN OF NARRATION: Narrated by Imam Muslim: from Abu Bakr ibn Abi Shaybah, from Isma'il ibn 'Ulayyah, from Khalid al-Hadhdha', from Abu Qilabah, from Abu al-Ash'ath as-San'ani, from Shaddad ibn Aws رضى الله عنه.

REFERENCE: Narrated by Imam Muslim in Sahih Muslim, Book of Hunting and Slaughter, Hadith No. 1955.

GRADE: SAHIH — contained in Sahih Muslim, the second most authentic book of Hadith after Sahih al-Bukhari.

Source: https://sunnah.com/muslim:1955a

LESSONS FROM THIS HADITH

Ihsan means ***doing something in the best possible way***. A chemist who weighs carefully, records honestly and works safely is practising ihsan. This principle is also the basis of ***good laboratory practice*** today.

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THE BALANCE AND DENSITY: AL-BIRUNI AND AL-KHAZINI

The spirit of the "science of the balance" was carried forward through ***real experiments*** by later Muslim scientists. They weighed metals and gemstones in air and in water to determine the ***specific gravity*** (relative density) of each substance.

> **HISTORY NOTE: REMARKABLE MEASUREMENTS**
>
> ***Abu al-Rayhan al-Biruni*** (d. c. 440 AH / 1048 CE) measured the specific gravity of ***over a dozen metals and gemstones*** with a specially designed conical vessel. His values are ***very close to modern values*** (Britannica: al-Biruni).
>
> ***'Abd ar-Rahman al-Khazini*** (6th century AH / 12th century CE) wrote ***Kitab Mizan al-Hikmah*** (The Book of the Balance of Wisdom), describing a highly precise ***hydrostatic balance*** for distinguishing pure metals from alloys.

LINK TO MODERN SCIENCE

Weighing in water is based on ***Archimedes' principle***: an immersed object loses weight equal to the weight of the water it displaces (Britannica: Archimedes' principle). The method is still used to ***test the purity of gold*** and to measure the density of materials.

LESSON: JUSTICE IN THE BALANCE

A precise balance helps ***detect fraud*** in the trade of gold and silver. This matches the Qur'anic command ***not to make the balance deficient*** (55:9). Science, used rightly, ***upholds justice***.

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THE SULFUR–MERCURY THEORY AND MODERN SCIENCE

The Jabirian corpus proposed that all ***metals form from a combination of sulfur and mercury*** in different proportions. Gold was thought to be the most balanced combination. From this theory came the hope of ***turning base metals into gold*** (transmutation).

WHAT DOES MODERN SCIENCE SAY?

Modern chemistry has shown that metals such as gold, iron and lead are ***elements***: substances that cannot be broken down into simpler substances by ***chemical reactions***. The modern concept of the element was developed by ***Robert Boyle*** (1661) and ***Antoine Lavoisier*** (1789) (Britannica: Lavoisier). Today there are ***118 elements*** in the periodic table (IUPAC: Periodic Table).

Interestingly, ***nuclear physics*** shows that one element ***can*** be changed into another — but only through ***nuclear reactions*** in reactors or particle accelerators, not on a laboratory stove (Wikipedia: Nuclear transmutation). The cost is far greater than the value of any gold produced.

LESSON: EVEN A WRONG THEORY CAN BE USEFUL

Although the sulfur–mercury theory was wrong, the effort to test it produced ***laboratory techniques, apparatus and classifications of substances*** of great value. Science advances through ***theories that are tested, improved or rejected***. Muslim scholars such as ***Ibn Sina*** criticised the possibility of transmutation — showing a tradition of ***scientific criticism*** among Muslim scientists.

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METALS AND SMELTING IN THE QUR'AN

The Qur'an mentions several ***metal technologies*** taught to prophets and righteous people. One is the story of ***Dhul-Qarnayn*** building a barrier:

SURAH AL-KAHF 18:96

ءَاتُونِى زُبَرَ ٱلْحَدِيدِ ۖ حَتَّىٰٓ إِذَا سَاوَىٰ بَيْنَ ٱلصَّدَفَيْنِ قَالَ ٱنفُخُوا۟ ۖ حَتَّىٰٓ إِذَا جَعَلَهُۥ نَارًا قَالَ ءَاتُونِىٓ أُفْرِغْ عَلَيْهِ قِطْرًا ﴿٩٦﴾

Bring me sheets of iron" - until, when he had leveled [them] between the two mountain walls, he said, "Blow [with bellows]," until when he had made it [like] fire, he said, "Bring me, that I may pour over it molten copper.

Translation: Sahih International — quran.com/18:96

This verse describes a ***metallurgical process***: gathering ***"sheets of iron"***, heating them with bellows until they were made ***"[like] fire"***, then pouring ***"molten copper"*** over them. Melting copper requires temperatures of ***over 1,000 °C*** (Britannica: copper) — a technology that requires knowledge of materials and fire. Tafsir Ibn Kathir 18:96.

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THE PROPHETS DAVID AND SOLOMON

Allah also taught ***the Prophet David*** عَلَيْهِ السَّلَامُ to soften iron and make coats of mail, and made a ***spring of copper*** flow for ***the Prophet Solomon*** عَلَيْهِ السَّلَامُ:

SURAH SABA' 34:12

وَلِسُلَيۡمَٰنَ ٱلرِّيحَ غُدُوُّهَا شَهۡرٞ وَرَوَاحُهَا شَهۡرٞۖ وَأَسَلۡنَا لَهُۥ عَيۡنَ ٱلۡقِطۡرِۖ وَمِنَ ٱلۡجِنِّ مَن يَعۡمَلُ بَيۡنَ يَدَيۡهِ بِإِذۡنِ رَبِّهِۦۖ وَمَن يَزِغۡ مِنۡهُمۡ عَنۡ أَمۡرِنَا نُذِقۡهُ مِنۡ عَذَابِ ٱلسَّعِيرِ ١٢

And to Solomon [We subjected] the wind - its morning [journey was that of] a month - and its afternoon [journey was that of] a month, and We made flow for him a spring of [liquid] copper. And among the jinn were those who worked for him by the permission of his Lord. And whoever deviated among them from Our command - We will make him taste of the punishment of the Blaze.

Translation: Sahih International — quran.com/34:12

These verses show that ***knowledge of metals is a blessing from Allah***, used for ***defence, construction and prosperity***. Chemistry and metallurgy, rightly used, are part of gratitude for that blessing. Tafsir Ibn Kathir 34:12.

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WATER: THE SOLVENT OF LIFE

In the chemistry laboratory, ***water*** is the most important substance. The Qur'an mentions water's place in creation:

SURAH AL-ANBIYA' 21:30

أَوَلَمْ يَرَ ٱلَّذِينَ كَفَرُوٓاْ أَنَّ ٱلسَّمَٰوَٰتِ وَٱلْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَٰهُمَاۖ وَجَعَلْنَا مِنَ ٱلْمَآءِ كُلَّ شَىْءٍ حَىٍّۖ أَفَلَا يُؤْمِنُونَ ﴿٣٠﴾

Have those who disbelieved not considered that the heavens and the earth were a joined entity, and We separated them and made from water every living thing? Then will they not believe?

Translation: Sahih International — quran.com/21:30

Allah says: ***"made from water every living thing"***. Modern science finds that ***living cells are largely made of water***, and almost all chemical reactions in the body take place in water solutions. Tafsir Ibn Kathir 21:30.

THE UNIVERSAL SOLVENT

Water is called ***"the universal solvent"*** because it dissolves more substances than any other liquid. This property comes from the ***polarity of the water molecule*** (H_2O), which attracts other ions and molecules (USGS: Water, the Universal Solvent). Early chemists used water in dissolution, filtration and crystallisation — processes mentioned in the Jabirian corpus.

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PURIFICATION: CHEMISTRY IN WORSHIP

Islam makes water the means of ***purification*** in ablution and the ritual bath. The Messenger of Allah ﷺ said:

HADITH — SAHIH MUSLIM, NO. 223

حَدَّثَنَا إِسْحَاقُ بْنُ مَنْصُورٍ، حَدَّثَنَا حَبَّانُ بْنُ هِلاَلٍ، حَدَّثَنَا أَبَانٌ، حَدَّثَنَا يَحْيَى، أَنَّ زَيْدًا، حَدَّثَهُ أَنَّ أَبَا سَلاَّمٍ حَدَّثَهُ عَنْ أَبِي مَالِكٍ الأَشْعَرِيِّ، قَالَ قَالَ رَسُولُ اللَّهِ صلى الله عليه وسلم «الطُّهُورُ شَطْرُ الإِيمَانِ وَالْحَمْدُ لِلَّهِ تَمْلأُ الْمِيزَانَ. وَسُبْحَانَ اللَّهِ وَالْحَمْدُ لِلَّهِ تَمْلآنِ - أَوْ تَمْلأُ - مَا بَيْنَ السَّمَوَاتِ وَالأَرْضِ وَالصَّلاَةُ نُورٌ وَالصَّدَقَةُ بُرْهَانٌ وَالصَّبْرُ ضِيَاءٌ وَالْقُرْآنُ حُجَّةٌ لَكَ أَوْ عَلَيْكَ كُلُّ النَّاسِ يَغْدُو فَبَائِعٌ نَفْسَهُ فَمُعْتِقُهَا أَوْ مُوبِقُهَا».

TRANSLATION:

Abu Malik al-Ash'ari رضى الله عنه said: The Messenger of Allah ﷺ said: "Purification is half of faith. Alhamdulillah fills the scale. Subhanallah and Alhamdulillah fill what is between the heavens and the earth. **Prayer is light (nur), charity is proof, and patience is radiance (diya').** The Qur'an is an argument for you or against you. Every person goes out in the morning and sells himself — either freeing himself or destroying himself."

CHAIN OF NARRATION: Narrated by Imam Muslim: from Ishaq ibn Mansur, from Habban ibn Hilal, from Aban ibn Yazid al-'Attar, from Yahya ibn Abi Kathir, from Zayd ibn Sallam, from Abu Sallam Mamtur, from Abu Malik al-Ash'ari رضى الله عنه.

REFERENCE: Narrated by Imam Muslim in Sahih Muslim, Book of Purification (Kitab at-Taharah), Hadith No. 223.

GRADE: SAHIH — contained in Sahih Muslim, the second most authentic book of Hadith after Sahih al-Bukhari.

Source: https://sunnah.com/muslim:223

LESSONS FROM THIS HADITH

Purification is ***half of faith***. Scientifically, water and ***soap*** remove dirt and germs: a soap molecule has one end attracted to water and one end attracted to oil, lifting away greasy dirt (Britannica: soap and detergent). Cities such as ***Aleppo and Nablus*** have been famous for soap-making since early times.

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CHEMISTRY IN EVERYDAY LIFE

Allah has filled the earth with substances ***of varying kinds and colours*** for human use:

SURAH AN-NAHL 16:13

وَمَا ذَرَأَ لَكُمْ فِي ٱلْأَرْضِ مُخْتَلِفًا أَلْوَٰنُهُۥٓ ۚ إِنَّ فِي ذَٰلِكَ لَءَايَةً لِّقَوْمٍ يَذَّكَّرُونَ ﴿١٣﴾

And [He has subjected] whatever He multiplied for you on the earth of varying colors. Indeed in that is a sign for a people who remember.

Translation: Sahih International — quran.com/16:13

Chemistry helps us understand and make use of these substances in daily life. Tafsir Ibn Kathir 16:13.

EVERYDAY EXAMPLE	THE CHEMISTRY BEHIND IT
Rusting iron	Iron reacts with oxygen and water to form iron oxide; paint and galvanising protect it ([Britannica: rust](https://www.britannica.com/science/rust-chemistry)).
Table salt	Sodium chloride (NaCl), an ionic compound important for the body and for preserving food.
Baking soda	Sodium bicarbonate releases carbon dioxide gas when heated or mixed with acid, making dough rise.
Soap	Soap molecules lift greasy dirt so it can be rinsed away with water.
Perfume and rosewater	Produced by distillation — a process described in Arabic chemistry books.
Honey	A mixture of sugars, enzymes and antibacterial substances; the Qur'an calls it "healing for people" (16:69).

LESSON

Every time we cook, wash or take medicine, we are using ***chemistry***. Understanding it increases our ***gratitude*** for the substances Allah created, and helps us use them ***safely and wisely***.

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CHEMISTRY AND MEDICINE

The books attributed to Jabir also discuss ***poisons and their antidotes***, for example in ***Kitab as-Sumum*** (The Book of Poisons). The link between chemistry and medicine grew closer in the following centuries: pharmacists (***as-saydalani***) prepared medicines through distillation, dissolution and mixing of substances.

The Messenger of Allah ﷺ gave hope that every disease has a cure:

HADITH — SAHIH AL-BUKHARI, NO. 5678

حَدَّثَنَا مُحَمَّدُ بْنُ الْمُثَنَّى، حَدَّثَنَا أَبُو أَحْمَدَ الزُّبَيْرِيُّ، حَدَّثَنَا عُمَرُ بْنُ سَعِيدِ بْنِ أَبِي حُسَيْنٍ، قَالَ حَدَّثَنِي عَطَاءُ بْنُ أَبِي رَبَاحٍ، عَنْ أَبِي هُرَيْرَةَ ـ رضى الله عنه ـ عَنِ النَّبِيِّ صلى الله عليه وسلم قَالَ «مَا أَنْزَلَ اللَّهُ دَاءً إِلاَّ أَنْزَلَ لَهُ شِفَاءً».

TRANSLATION:

Abu Hurayrah رضى الله عنه reported that the Prophet ﷺ said: **"Allah has not sent down any disease except that He has also sent down its cure."**

CHAIN OF NARRATION: Narrated by Imam al-Bukhari: from Muhammad ibn al-Muthanna, from Abu Ahmad az-Zubayri, from 'Umar ibn Sa'id ibn Abi Husayn, from 'Ata' ibn Abi Rabah, from Abu Hurairah رضى الله عنه.

REFERENCE: Narrated by Imam al-Bukhari in Sahih al-Bukhari, Book of Medicine, Hadith No. 5678.

GRADE: SAHIH — contained in Sahih al-Bukhari, the most authentic book of Hadith after the Qur'an by consensus of the Hadith scholars.

Source: https://sunnah.com/bukhari:5678

LESSONS FROM THIS HADITH

This Hadith encourages Muslims to ***seek cures*** and ***study substances***. Many modern medicines come from ***plants and minerals*** processed by chemical methods — from aspirin (from willow bark) to antibiotics. Chemical research is part of the effort to find ***the cure that Allah has sent down***.

FROM THE DRUGGIST'S SHOP TO THE PHARMACY

By the 3rd century AH, ***pharmacies*** already existed in Baghdad, and the Abbasid state later regulated the quality of medicines through inspection. Jabir's own father, according to the traditional account, was an ***'attar*** (seller of medicines and perfumes).

Al-Razi later wrote books listing the ***properties of medicinal substances*** and stressing the testing of remedies on patients with careful observation.

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KNOWLEDGE FOR THE WORK OF THE HANDS

The books attributed to Jabir discuss ***purifying and testing metals***, making alloys, and many processes useful in crafts such as dyeing and glass-making. Islam honours ***the work of the hands***, as the Messenger of Allah ﷺ said:

HADITH — SAHIH AL-BUKHARI, NO. 2072

حَدَّثَنَا إِبْرَاهِيمُ بْنُ مُوسَى، أَخْبَرَنَا عِيسَى، عَنْ ثَوْرٍ، عَنْ خَالِدِ بْنِ مَعْدَانَ، عَنِ الْمِقْدَامِ ـ رضى الله عنه ـ عَنْ رَسُولِ اللَّهِ صلى الله عليه وسلم قَالَ « مَا أَكَلَ أَحَدٌ طَعَامًا قَطُّ خَيْرًا مِنْ أَنْ يَأْكُلَ مِنْ عَمَلِ يَدِهِ، وَإِنَّ نَبِيَّ اللَّهِ دَاوُدَ ـ عَلَيْهِ السَّلاَمُ ـ كَانَ يَأْكُلُ مِنْ عَمَلِ يَدِهِ ».

TRANSLATION:

Al-Miqdam رضى الله عنه narrated that the Messenger of Allah ﷺ said: **"No one has ever eaten food better than what he eats from the work of his own hands. And the Prophet of Allah David عَلَيْهِ السَّلَامُ used to eat from the work of his own hands."**

CHAIN OF NARRATION: Narrated by Imam al-Bukhari: from Ibrahim ibn Musa, from 'Isa ibn Yunus, from Thawr ibn Yazid, from Khalid ibn Ma'dan, from al-Miqdam ibn Ma'dikarib رضى الله عنه.

REFERENCE: Narrated by Imam al-Bukhari in Sahih al-Bukhari, Book of Sales (Kitab al-Buyu'), chapter on a man's earning and the work of his hands, Hadith No. 2072.

GRADE: SAHIH — contained in Sahih al-Bukhari, the most authentic book of Hadith after the Qur'an by consensus of the Hadith scholars.

Source: https://sunnah.com/bukhari:2072

LESSONS FROM THIS HADITH

The Prophet David عَلَيْهِ السَّلَامُ was taught by Allah to ***soften iron*** and make coats of mail (Surah Saba' 34:10–11). Knowledge of substances — from iron to medicine — is knowledge that brings ***benefit and lawful provision***.

CHEMISTRY IN THE INDUSTRIES OF THE MUSLIM WORLD

Chemistry in the Muslim world was used in many industries: ***soap-making*** (in Syria), ***glass*** (in Syria and Egypt), ***ink and paper***, ***textile dyes***, ***perfumes and rosewater*** (in Persia) and ***metal refining***. Scientists such as ***al-Kindi*** wrote a book on the distillation of perfumes.

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THE HEIRS: AL-KINDI, AL-RAZI AND IBN SINA

After the Jabirian corpus came scientists who ***organised and criticised*** chemistry more systematically.

HISTORY NOTE: THREE HEIRS AND CRITICS

Ya'qub ibn Ishaq al-Kindi (d. c. 256 AH / 870 CE), "the philosopher of the Arabs", wrote on ***the distillation of perfumes*** and a treatise ***rejecting the alchemists' claim*** that base metals could be turned into gold and silver.

Abu Bakr Muhammad ibn Zakariyya al-Razi (d. 313 AH / 925 CE), the famous physician of Baghdad and Rayy, wrote ***Sirr al-Asrar***. He classified substances into ***mineral, vegetable and animal***, and described ***laboratory apparatus*** systematically. Historians see his work as more ***practical*** and less symbolic than the Jabirian corpus.

Ibn Sina (d. 428 AH / 1037 CE), in the natural sciences section of ***ash-Shifa'***, ***rejected*** the claim that alchemists could change the essence of one metal into another. He held that they could only ***imitate its outward appearance***.

LESSON: A TRADITION OF SCIENTIFIC CRITICISM

Muslim scientists did not accept a theory ***just because it was famous***. Al-Kindi and Ibn Sina criticised the theory, al-Razi improved the method. This is ***a healthy culture of knowledge***: honouring predecessors while continuing to check and improve.

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"GEBER" IN EUROPE

HISTORY NOTE: FROM KUFA TO THE UNIVERSITIES OF EUROPE

In the 12th century CE, ***Kitab al-Sab'in*** was translated into Latin by ***Gerard of Cremona*** as *Liber de Septuaginta*. Jabir's name was Latinised as ***"Geber"***.

In the ***late 13th century CE***, a Latin book called ***Summa perfectionis*** appeared under the name "Geber". Historians call its author ***"pseudo-Geber"***, and many believe it was written by ***Paul of Taranto***. It was highly influential in European chemistry, but it is ***not Jabir's work***.

The sulfur–mercury theory from the Jabirian corpus continued to shape views of metals ***until the 18th century***.

REFLECTION

Knowledge born in Kufa and Baghdad crossed into Europe and became a foundation of modern chemistry. Muslims were once ***leaders in knowledge*** — and can be again.

ARABIC WORDS IN THE LANGUAGE OF SCIENCE

Besides alembic, alkali and elixir, the words ***alchemy*** and ***chemistry*** themselves come from the Arabic ***al-kimiya'***. The word ***alcohol*** also comes from the Arabic ***al-kuhl***, though its meaning has changed (Britannica: alchemy).

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THE ETHICS OF KNOWLEDGE: BENEFICIAL KNOWLEDGE

Chemistry can produce ***medicines and fertilisers***, but also ***poisons and weapons***. That is why Islam stresses that knowledge must be ***beneficial***. The Messenger of Allah ﷺ himself sought refuge from knowledge that does not benefit:

HADITH — SAHIH MUSLIM, NO. 2722

حَدَّثَنَا أَبُو بَكْرِ بْنُ أَبِي شَيْبَةَ، وَإِسْحَاقُ بْنُ إِبْرَاهِيمَ، وَمُحَمَّدُ بْنُ عَبْدِ اللَّهِ بْنِ نُمَيْرٍ، - وَاللَّفْظُ لاِبْنِ نُمَيْرٍ - قَالَ إِسْحَاقُ أَخْبَرَنَا وَقَالَ الآخَرَانِ، حَدَّثَنَا أَبُو مُعَاوِيَةَ، عَنْ عَاصِمٍ، عَنْ عَبْدِ اللَّهِ بْنِ الْحَارِثِ، وَعَنْ أَبِي عُثْمَانَ النَّهْدِيِّ، عَنْ زَيْدِ بْنِ أَرْقَمَ، قَالَ لاَ أَقُولُ لَكُمْ إِلاَّ كَمَا كَانَ رَسُولُ اللَّهِ صلى الله عليه وسلم يَقُولُ كَانَ يَقُولُ «اللَّهُمَّ إِنِّي أَعُوذُ بِكَ مِنَ الْعَجْزِ وَالْكَسَلِ وَالْجُبْنِ وَالْبُخْلِ وَالْهَرَمِ وَعَذَابِ الْقَبْرِ اللَّهُمَّ آتِ نَفْسِي تَقْوَاهَا وَزَكِّهَا أَنْتَ خَيْرُ مَنْ زَكَّاهَا أَنْتَ وَلِيُّهَا وَمَوْلاَهَا اللَّهُمَّ إِنِّي أَعُوذُ بِكَ مِنْ عِلْمٍ لاَ يَنْفَعُ وَمِنْ قَلْبٍ لاَ يَخْشَعُ وَمِنْ نَفْسٍ لاَ تَشْبَعُ وَمِنْ دَعْوَةٍ لاَ يُسْتَجَابُ لَهَا».

TRANSLATION:

Zayd ibn Arqam رضى الله عنه said: I will say to you only what the Messenger of Allah ﷺ used to say. He used to supplicate: **"O Allah, I seek refuge in You from incapacity, laziness, cowardice, miserliness, senility and the punishment of the grave. O Allah, grant my soul its God-consciousness and purify it — You are the best to purify it; You are its Guardian and Master. O Allah, I seek refuge in You from knowledge that does not benefit, a heart that is not humble, a soul that is never satisfied, and a supplication that is not answered."**

CHAIN OF NARRATION: Narrated by Imam Muslim: from Abu Bakr ibn Abi Shaybah, Ishaq ibn Ibrahim and Muhammad ibn 'Abdillah ibn Numayr, from Abu Mu'awiyah, from 'Asim (al-Ahwal), from 'Abdullah ibn al-Harith and Abu 'Uthman an-Nahdi, from Zayd ibn Arqam رضى الله عنه.

REFERENCE: Narrated by Imam Muslim in Sahih Muslim, Book of Remembrance, Supplication, Repentance and Seeking Forgiveness, Chapter: Seeking Refuge From the Evil of Deeds, Hadith No. 2722.

GRADE: SAHIH — contained in Sahih Muslim, the second most authentic book of Hadith after Sahih al-Bukhari.

Source: https://sunnah.com/muslim:2722

LESSONS FROM THIS HADITH

This supplication teaches that ***the amount of knowledge is not the measure***; what matters is ***its benefit***. Knowledge that does not lead to piety and goodness can become a calamity.

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CHEMISTRY AND MODERN RESPONSIBILITY

In the 20th century, chemical weapons were used in war and killed many people. The world later agreed on the ***Chemical Weapons Convention*** (1993), which bans the development, production and use of chemical weapons (OPCW: Chemical Weapons Convention). This principle accords with Islamic teaching on ***the prohibition of causing harm*** and ***the protection of life***.

For Muslim science students, the story of Jabir and this supplication are a reminder: study chemistry to ***heal, build and bring prosperity***, not to destroy.

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VERIFY BEFORE YOU SPREAD

Jabir's story teaches an important lesson: ***not everything attributed to a person truly comes from them***. The Messenger of Allah ﷺ warned:

HADITH — SAHIH MUSLIM, INTRODUCTION NO. 5 — FROM IMAM MUSLIM'S OWN INTRODUCTION

وَحَدَّثَنَا عُبَيْدُ اللَّهِ بْنُ مُعَاذٍ الْعَنْبَرِيُّ، حَدَّثَنَا أَبِي ح، وَحَدَّثَنَا مُحَمَّدُ بْنُ الْمُثَنَّى، حَدَّثَنَا عَبْدُ الرَّحْمَنِ بْنُ مَهْدِيٍّ، قَالاَ حَدَّثَنَا شُعْبَةُ، عَنْ خُبَيْبِ بْنِ عَبْدِ الرَّحْمَنِ، عَنْ حَفْصِ بْنِ عَاصِمٍ، قَالَ قَالَ رَسُولُ اللَّهِ صلى الله عليه وسلم «كَفَى بِالْمَرْءِ كَذِبًا أَنْ يُحَدِّثَ بِكُلِّ مَا سَمِعَ».

TRANSLATION:

The Messenger of Allah ﷺ said: **"It is enough of a lie for a person to narrate everything he hears."**

CHAIN OF NARRATION: Narrated by Imam Muslim: from 'Ubaydullah ibn Mu'adh al-'Anbari, from his father Mu'adh ibn Mu'adh; and from Muhammad ibn al-Muthanna, from 'Abd ar-Rahman ibn Mahdi, both from Shu'bah, from Khubayb ibn 'Abd ar-Rahman, from Hafs ibn 'Asim. In the following narration, Imam Muslim narrates it with a connected chain: from Abu Bakr ibn Abi Shaybah, from 'Ali ibn Hafs, from Shu'bah, with the same chain, from Hafs ibn 'Asim, from Abu Hurairah رضى الله عنه.

REFERENCE: Narrated by Imam Muslim in the Introduction to Sahih Muslim, Hadith No. 5; the connected narration through Abu Hurairah is in the Introduction, narration 7 (sunnah.com/muslim/introduction/7).

GRADE: SAHIH — Imam Muslim placed it in the Introduction to Sahih Muslim and narrated it with a connected chain through Abu Hurairah رضى الله عنه.

Source: https://sunnah.com/muslim:5

LESSONS FROM THIS HADITH

Hadith scholars examine the chain before accepting a narration. Historians of science examine ***style, content and date*** before accepting a book's attribution. Both follow ***the same principle***: verify first, before you spread.

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ESTABLISHED REPORTS AND POPULAR STORIES

Many claims about Jabir circulate on social media and in popular books. The table below separates what is established from what needs checking.

STORIES AND THEIR STATUS

POPULAR STATEMENT	STATUS
Jabir lived c. 721–815 CE in Kufa.	Traditional account. No independent source before about 900 CE mentions him.
Hundreds of chemistry books were written in Jabir's name.	Established. Ibn al-Nadim (987 CE) lists them.
All those books were written by Jabir alone.	Disputed. Paul Kraus argued they were the work of many authors (c. 850–950 CE).
Jabir was a student of Imam Ja'far as-Sadiq.	Stated in the Jabirian books themselves; no independent contemporary source.
Summa perfectionis is Jabir's work.	Incorrect. It is a Latin work of the late 13th century CE (pseudo-Geber).
Jabir succeeded in turning base metals into gold.	No evidence; modern science shows chemical processes cannot change one element into another.
The English word "gibberish" comes from the name "Geber".	A popular but uncertain theory; the word's origin is not known for sure.
Jabir invented sulfuric acid and nitric acid.	Uncertain. Clear recipes for mineral acids appear in the Latin pseudo-Geber works and later sources.

REFLECTION — HONOUR WITHOUT EXAGGERATION

We can ***take pride in the contributions*** of Muslim scholars without ***adding stories*** that are not established. The truth needs no decoration — and the Jabirian corpus's contribution to chemistry is genuinely great.

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LESSONS AND CONCLUSION

LESSONS FROM THIS EBOOK

First: The substances of the earth were created for human benefit (57:25).

Second: Accurate weighing is the foundation of justice and of science (55:7–9; 54:49).

Third: Worldly matters are learned through experience and experiment (Sahih Muslim 2363).

Fourth: Do every task with excellence (ihsan) — carefully, honestly and safely (Sahih Muslim 1955).

Fifth: Knowledge of metals is a blessing from Allah for defence and construction (18:96; 34:12).

Sixth: Every disease has a cure — the study of substances is a way to find it (Sahih al-Bukhari 5678).

Seventh: Honour the work of the hands and knowledge that brings lawful provision (Sahih al-Bukhari 2072).

Eighth: Verify before you spread — whether a Hadith, a news report or a book's attribution (Sahih Muslim, Introduction No. 5).

Ninth: Science advances through criticism — theories are tested, improved or rejected.

Tenth: Knowledge flourishes when books are valued and accessible, as in the age of Baghdad.

Eleventh: Water is a blessing of life and a means of purification — purification is half of faith (21:30; Sahih Muslim 223).

Twelfth: Ask for beneficial knowledge and seek refuge from knowledge that does not benefit (Sahih Muslim 2722).

Thirteenth: Combine reflection with practical work — observe creation and carry out experiments (3:190–191).

CONCLUSION

Whether written by one author or many, the books in the name of Jabir ibn Hayyan became one of the foundations of ***chemistry***, from Kufa to the universities of Europe. The next book of **Tracing the Scholars of Islam**, in sha Allah, will tell the story of ***al-Khwarizmi***, the father of algebra. Wallahu a'lam.

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GLOSSARY AND REFLECTION QUESTIONS

GLOSSARY

TERM	MEANING
Al-kimiya’	The science of substances and their changes; origin of the words “alchemy” and “chemistry”.
Jabirian corpus	The collection of hundreds of books written in the name of Jabir ibn Hayyan.
Al-anbiq (alembic)	A distilling apparatus that collects vapour and cools it into liquid.
Distillation	Separating a liquid by heating it into vapour and cooling it back.
Sublimation	A solid turning directly into vapour without becoming liquid.
Transmutation	Changing one element into another; impossible chemically, possible through nuclear reactions.
Element	A substance that cannot be broken down into simpler substances by chemical reactions.
Sal ammoniac	Ammonium chloride (NH_4Cl), a substance known in the Jabirian corpus.
Pseudo-Geber	An unknown Latin author who wrote under the name “Geber” in the 13th century CE.
Ihsan	Doing something in the best possible way.
Specific gravity	The density of a substance relative to the density of water.
Solvent	A substance (usually a liquid) that dissolves other substances; water is called the universal solvent.

REFLECTION QUESTIONS

1. Why do historians speak carefully of “the books attributed to Jabir”? How does this resemble the method of Hadith scholars?

2. What features of the Abbasid age helped science flourish? How can we create them today?

3. The sulfur–mercury theory turned out to be wrong. Why is it still important in the history of science?

4. How does verse 18:96 describe knowledge of metals and fire?

5. How can the principle of ihsan (Sahih Muslim 1955) be practised in laboratory work or in our own jobs?

6. What is the danger of exaggerating the contributions of Muslim figures with stories that are not established?

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7. How can a Muslim scientist make sure their knowledge is “beneficial”, as in the supplication of Sahih Muslim 2722?

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SURAH AL-BAQARAH 2:261

مَّثَلُ ٱلَّذِينَ يُنفِقُونَ أَمۡوَٰلَهُمۡ فِي سَبِيلِ ٱللَّهِ كَمَثَلِ حَبَّةٍ أَنۢبَتَتۡ سَبۡعَ سَنَابِلَ فِي كُلِّ سُنۢبُلَةٖ مِّاْئَةُ حَبَّةٖۗ وَٱللَّهُ يُضَٰعِفُ لِمَن يَشَآءُۚ وَٱللَّهُ وَٰسِعٌ عَلِيمٌ ٢٦١

The example of those who spend their wealth in the way of Allah is like a seed [of grain] which grows seven spikes; in each spike is a hundred grains. And Allah multiplies [His reward] for whom He wills. And Allah is all-Encompassing and Knowing.

Translation: Sahih International — quran.com/2:261

SURAH SABA' 34:39

قُلۡ إِنَّ رَبِّي يَبۡسُطُ ٱلرِّزۡقَ لِمَن يَشَآءُ مِنۡ عِبَادِهِۦ وَيَقۡدِرُ لَهُۥۚ وَمَآ أَنفَقۡتُم مِّن شَيۡءٖ فَهُوَ يُخۡلِفُهُۥۖ وَهُوَ خَيۡرُ ٱلرَّٰزِقِينَ ٣٩

Say, "Indeed, my Lord extends provision for whom He wills of His servants and restricts [it] for him. But whatever thing you spend [in His cause] - He will compensate it; and He is the best of providers."

Translation: Sahih International — quran.com/34:39

HADITH — SAHIH MUSLIM, NO. 2588

حَدَّثَنَا يَحْيَى بْنُ أَيُّوبَ، وَقُتَيْبَةُ، وَابْنُ، حُجْرٍ قَالُوا حَدَّثَنَا إِسْمَاعِيلُ، - وَهُوَ ابْنُ جَعْفَرٍ - عَنِ الْعَلاَءِ، عَنْ أَبِيهِ، عَنْ أَبِي هُرَيْرَةَ، عَنْ رَسُولِ اللَّهِ صلى الله عليه وسلم قَالَ « مَا نَقَصَتْ صَدَقَةٌ مِنْ مَالٍ وَمَا زَادَ اللَّهُ عَبْدًا بِعَفْوٍ إِلاَّ عِزًّا وَمَا تَوَاضَعَ أَحَدٌ لِلَّهِ إِلاَّ رَفَعَهُ اللَّهُ ».

TRANSLATION:

Abu Hurayrah رضى الله عنه narrated that the Messenger of Allah ﷺ said: "Charity does not decrease wealth.

Allah does not increase a servant who forgives except in honour. And no one humbles himself for the sake of Allah except that Allah raises him in rank."

CHAIN OF NARRATION: Narrated by Imam Muslim: from Yahya bin Ayyub, Qutaibah bin Sa'id and 'Ali bin Hujr, from Isma'il bin Ja'far, from al-'Ala' bin 'Abd al-Rahman, from his father 'Abd al-Rahman bin Ya'qub, from Abu Hurayrah رضي الله عنه .

REFERENCE: Narrated by Imam Muslim in Sahih Muslim, Book of Virtue, Good Manners and Joining the Ties of Kinship (Kitab al-Birr wa al-Silah wa al-Adab), chapter on the encouragement of forgiveness and humility, Hadith No. 2588.

GRADE: SAHIH — contained in Sahih Muslim.

Source: https://sunnah.com/muslim:2588

HADITH — SAHIH MUSLIM, NO. 1631

حَدَّثَنَا يَحْيَى بْنُ أَيُّوبَ، وَقُتَيْبَةُ - يَعْنِي ابْنَ سَعِيدٍ - وَابْنُ حُجْرٍ قَالُوا حَدَّثَنَا إِسْمَاعِيلُ، - هُوَ ابْنُ جَعْفَرٍ - عَنِ الْعَلاَءِ، عَنْ أَبِيهِ، عَنْ أَبِي هُرَيْرَةَ، أَنَّ رَسُولَ اللَّهِ صلى الله عليه وسلم قَالَ « إِذَا مَاتَ الإِنْسَانُ انْقَطَعَ عَنْهُ عَمَلُهُ إِلاَّ مِنْ ثَلاَثَةٍ إِلاَّ مِنْ صَدَقَةٍ جَارِيَةٍ أَوْ عِلْمٍ يُنْتَفَعُ بِهِ أَوْ وَلَدٍ صَالِحٍ يَدْعُو لَهُ ».

TRANSLATION:

Abu Hurayrah رضي الله عنه narrated that the Messenger of Allah ﷺ said: "When a person dies, his deeds come to an end except for three: an ongoing charity, knowledge that is benefited from, or a righteous child who prays for him."

CHAIN OF NARRATION: Narrated by Imam Muslim: from Yahya bin Ayyub, Qutaibah bin Sa'id and 'Ali bin Hujr, from Isma'il bin Ja'far, from al-'Ala' bin 'Abd al-Rahman, from his father 'Abd al-Rahman bin Ya'qub, from Abu Hurayrah رضي الله عنه .

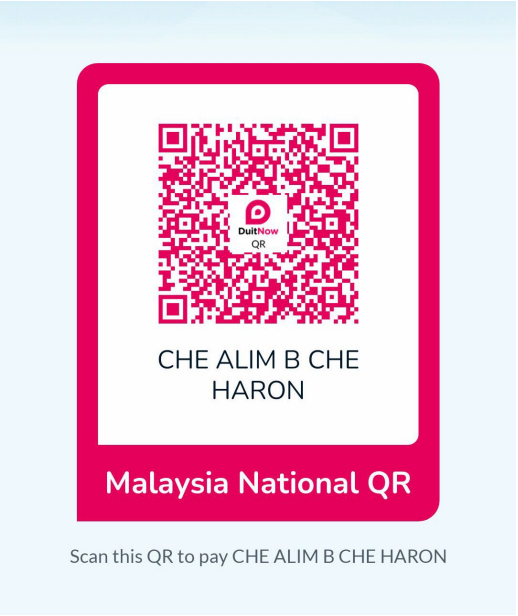
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Source: https://sunnah.com/muslim:1631

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