

The Forgotten Meaning of *ʿāpār* in Biblical Hebrew

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It is argued in this study that *ʿāpār*, in the context of mining expressed in Job 28:2, 6, probably denotes neither ‘dust’ nor related materials (‘earth’, ‘dirt’, or ‘ashes’), as is generally assumed, but ‘metallic ore’. A similar designation of *ʿāpār* as ore is identified in Job 30:6 and Ezek. 26:12. Further examination reveals the figurative use of *ʿāpār* as ore in Job 22:24, Isa. 34:9, and Isa. 41:2. In contrast to the abasement, humiliation, and worthlessness that are closely related to dust, metallic ore is associated with preciousness, rarity, and wisdom. Consequently, disregard of the figurative meaning of *ʿāpār* as ore may generate misunderstandings of the biblical text. It may also conceal a theological reality. For example, the identification of *ʿāpār* as ore in Prov. 8:26 promotes homology between Lady Wisdom and the Egyptian goddess Hathor in Prov. 8:22–31. In Gen. 3:14, it stresses the metallurgical background of the Hebrew myth of origin and helps to clarify its significance. The meaning of *ʿāpār* as ore in Isa. 65:25 even transforms the metallurgical theological component into the source of eschatological developments. It is concluded that the ‘ore’ dimension of meaning of *ʿāpār* coexists in biblical Hebrew with the traditional association of *ʿāpār* with dust and that the disregard of this dimension overlooks the meaning of these verses and the theology that inspires them; it also reflects misunderstandings of biblical Hebrew after the Persian period.

INTRODUCTION

It is generally agreed that *ʿāpār*, in ancient Hebrew, denotes dust and similar material. This consensus is supported by the examination of many occurrences of *ʿāpār* in the Bible as well as cognate terms in other Semitic languages. That is, words in Akkadian, Ugaritic, Arabic, Aramaic, and Syriac that resemble the Hebrew *ʿāpār* also express a reality closely related to dust.¹ The etymological proximity in Hebrew of *ʿāpār* and *ʿēper*² and the association of *ʿēper* with ashes and crumbled dust in Hebrew as well as in other Semitic and Hamitic languages confirm the assumption that dust is closely related to *ʿāpār*.³

In Hebrew, this basic meaning of *ʿāpār* extends to connotations of soil, earth of the grave, mortar used for plastering houses, debris of houses and cities, ashes, and even dirt. Figurative meanings such as abundance, scattered/dispersed, self-abasement, and humiliation are also easily integrated into the semantic field of *ʿāpār* as dust.⁴ In a few dictionaries, however, the list of derived meanings of *ʿāpār* is expanded to include ore⁵ in Job 28:2, 6.⁶ Although

1. *BDB* 779; *HALOT* 2: 861–62; L. Wächter, “Afar,” in *Theological Dictionary of the Old Testament*, ed. G. J. Botterweck, H. Ringgren, and H. J. Fabry (Grand Rapids: Eerdmans, 1977), 11: 257–65; M. Dahood, “Hebrew-Ugaritic Lexicography VII,” *Biblica* 50 (1969): 337–56, 352.

2. A. F. Rainey, “Dust and Ashes,” *Tel Aviv* 1 (1974): 77–83; Wächter, “Afar,” 258; *HALOT* 1: 80.

3. A. Militarev, “A Complete Etymology-based 100-word List of Semitic Updated: Items 1–34,” *Journal of Language Relationship* 3 (2010): 43–78, esp. 48.

4. *BDB* 779; *DCH* 6: 515; *NIDOTTE* 3: 472–73; Wächter, “Afar,” 257–59.

5. *BDB* 779; *DCH* 6: 515.

6. Such a meaning might reflect evidence that copper ore was finely ground before being smelted and from the earliest stages of the development of metallurgy. See P. Craddock, “From Hearth to Furnace: Evidence for the

deduced from the mining context of Job 28:1–11, this interpretation is rejected by most exegetes, translators, and scholars.⁷

This debate is of little importance as long as the use of *‘āpār* as ore in the Bible is restricted to a pair of exotic occurrences in Job 28. However, if *‘āpār* also denotes ore outside of the mining context of Job 28, the confusion between *‘āpār* as ore and *‘āpār* as dust may engender misinterpretations of the biblical text. The first reason is that ores were rare and sought-after materials extracted from the depths with great effort. This implies that *‘āpār*-ore should be associated with preciousness and rarity instead of with the dirtiness, worthlessness, abasement, and humiliation of *‘āpār*-dust. The second reason is the theological importance of ores and mineral treasures in the Bible. This reality is revealed in Deut. 8:9, where YHWH's gift of ores to the Israelites represents a fundamental dimension of his blessing: "A land in which you will eat bread without scarcity, in which you will lack nothing, a land whose stones are iron, and out of whose hills you can dig copper."

In Isa. 45:3, too, the oracle to Cyrus evokes the gift of precious ores as a specific sign of blessing from YHWH: "I will give you the treasures of darkness and the concealed riches in secret places, that you may know that it is I, YHWH, the God of Israel, who call you by your name." This theological importance of precious stones and ores is confirmed by the twelve stones in the priest's breastplate (*hōšēn*), which were not simply added as precious ornaments but served as the symbols of the tribes of Israel (Exod. 28:15–21).⁸ These considerations reveal that some important points in Israelite theology may have been dismissed by overlooking the ore-meaning of *‘āpār* and its literal, figurative, and theological uses in the Bible.

THE LITERAL MEANING OF *‘ĀPĀR* AS ORE

"Iron from *‘āpār* is taken out; and stone pours copper." (Job 28:2) כְּרִיזָל מֵעֶפֶר יִקַּח וְאֶבֶן יִצְוֹק נְחוֹשֶׁה.

Three interpretations of *‘āpār* have been suggested in the context of dust:

1) *‘āpār* as earth: This interpretation follows the Septuagint translation of *‘āpār* as γῆ (= earth, soil, and, especially, arable land), and supports the translation of v. 2a as "Iron is taken from the soil."⁹ Such a translation implies that iron ore is so common as to be conflated with earth as a whole. This interpretation is unlikely due to the extreme rarity of iron ore in Canaan.

2) *‘āpār* as earth surrounding the ore: Some researchers suggest that here the term *barzel* denotes not iron but rather iron ore. If so, v. 2a would be translated as "Iron ore (*barzel*) is taken from the earth (*‘āpār*)."¹⁰ This interpretation preserves the rarity of the raw material

Earliest Metal Smelting Technologies in the Eastern Mediterranean," *Paléorient* 26 (2000): 151–65. Gold, too, was collected in antiquity as a powder mechanically separated from ore after the latter had been finely ground. See J. H. F. Notton, "Ancient Egyptian Gold Refining—A Reproduction of Early Techniques," *Gold Bulletin* 7 (1974): 50–56.

7. The meaning of *‘āpār* as ore, even in Job 28, is lacking, for example, in dictionaries of biblical Hebrew such as *HALOT* and *TDOT*.

8. Exactly the same theological importance of precious stones, metals, and ores is acknowledged in ancient Egypt. S. Aufrère (*L'univers minéral dans la pensée égyptienne* [Cairo: Institut Français d'Archéologie du Caire, 1991], 812) concluded that these precious materials represent a genuine theophany and/or microcosm of the divine universe: "Le trésor en soi, pour l'Égyptien, évoque plus qu'un simple endroit où s'entassent les richesses; au second degré, il représente une véritable mine, résumé théorique de toutes les contrées minières où la divinité a dispersé ses membres, c'est à dire sa lumière."

9. Consequently, this mention of soil has also been explained as introducing a distinction between copper ore as hard stone and iron ore as crumbly matter mixed with soil elements. See, for example, D. J. A. Clines, *Job 21–37* (Nashville: Nelson Publishers, 2006), 894. Such an interpretation, however, is not supported by reality.

10. *NIDOTTE* 3: 472.

extracted from the earth. The second hemiverse, however, explicitly mentions copper as metal poured from the stone (the ore). The parallel between the two strongly suggests, therefore, that *barzel* here designates iron as metal.

3) *'āpār* as dust:¹¹ Iron cannot be produced simply by introducing dust into a furnace. This means that interpreting *'āpār* as dust here implies that it designates the iron ore that is finely ground before being smelted. In such a case, *'āpār* designates ore in a dusty state, and not simply dust, in any of its acknowledged derivatives.

This examination reveals that the two possible interpretations of *'āpār* as dust/earth assume that it is used here to designate ore. This approach is tenable, however, only in the absence of any genuine meaning of *'āpār* as ore. Otherwise, this latter solution should obviously be preferred. The reason is the explicit mention, in v. 2a, of iron being “taken” (קָחַ) from *'āpār*, which naturally suggests that this term denotes the raw material from which iron is produced, that is, iron ore. This view is confirmed by the parallelism between hemiverses that promotes a homology between the production of iron (2a) and of copper (2b). In 2b, *yāsūq* evokes the smelting process from which copper is produced from ore (the *qal* form of *šwq* denoting pouring or casting). Accordingly, the simplest interpretation of *'āpār* in v. 2a is to assume that, exactly like stone in 2b, it designates the ore from which iron is smelted.

“Its stones are the place of sapphire [. . .] and it has ‘aprôt of gold.” מְקוֹם-סַפִּיר אֲבִינִיָה וְעִפְרַת זָהָב לוֹ. (Job 28:6)

Here the term *'āpār* (plur. *'aprôt*) is encountered in the context of mining in the depths (vv. 4–5) toward the subsurface of the mountains (v. 9). This literary context, together with the extraction of precious gems from the depths as evoked in the first hemiverse, obviously invites us to interpret *'aprôt zāhāb* as ores of gold.¹² Even the plural form of *'āpār* fits the multiplicity of ores from which gold was extracted in antiquity.¹³ Nevertheless, almost all translators, exegetes, and scholars interpret *'āpār* in Job 28:6 as dust or a derivative thereof. Five such propositions are examined here:

1) Dust: This meaning is already suggested by the Septuagint, which here translates *'āpār* as *χῶμα*, a term denoting the upper layer of dust of the soil.¹⁴ This interpretation is challenged, however, by the evidence that *'aprôt zāhāb* are mentioned here in the context of deep excavations.

2) Dirt: Some translators and exegetes here interpret *'āpār* as dirt. Thus they assume that the poet evokes the presence of gold within a material of low value.¹⁵ This is precisely the characteristic of ores, being composed of minerals of low value that contain a precious substance.

3) Crushed stone: It has been suggested that the verse refers to the release of gold by a stone that contains precious gems (*sapir*) after the stone is crushed. This leads to the translation of v. 6 as “A place where its stones are sapphire; their dust contains gold.”¹⁶ This

11. M. H. Pope, *Job* (New York: Doubleday, 1973), 200.

12. This interpretation is proposed by M. V. Fox, *Proverbs 1–9* (New York: Doubleday, 2000), 284.

13. As noticed by D. Klemme, R. Klemme, and A. Murr, “Gold of the Pharaohs—6000 Years of Gold Mining in Egypt and Nubia,” *Journal of African Earth Science* 33 (2001): 643–59, three main sources of gold were exploited in Egypt and Nubia from the fourth millennium B.C.E.: alluvial deposits, gold-enriched quartz veins in green minerals (especially copper ore), and gold-quartz mineralization within volcanic or metamorphic rocks. This explains the mention of various types of ore and mining contexts for gold production.

14. This term is also used, for example, to translate *'āpār* in Exod. 8:12, where Moses is asked to “smite” the soil (*'āpār*) with his scepter.

15. W. D. Reayburn, *A Handbook on the Book of Job* (New York: United Bible Society, 1992), 503.

16. J. E. Hartley, *The Book of Job* (Grand Rapids: Eerdmans, 1988), 375; Pope, *Job*, 197.

interpretation should be rejected, however, because the finding of gold in stone is not conditioned by the presence of any gem, regardless of whatever the word *sapir* may denote.

4) Shining particles: It was suggested that the expression *‘aprôt zāhāb* refers to the fine particles of iron pyrite that are identifiable in the ores of some gems, which glitter like gold.¹⁷ This interpretation assumes, improbably, that the author of Job 28 dismissed the difference between pyrite and gold.

5) Gold dust:¹⁸ Gold was collected in antiquity as a powder mechanically separated from finely crushed stone.¹⁹ Accordingly, *‘āpār* may here implicitly evoke the dust from which gold was extracted.

This overview shows that three of the proposed interpretations (1, 3, and 4) are unlikely. The two others (2 and 5) imply that dust is introduced here in the sense of ore. Here again, such an indirect appellation is relevant only in the case that *‘āpār* cannot literally denote ore.

“To dwell in the clefts of valleys; holes of *‘āpār* and rocks” בְּעִרוּץ נְחָלִים לְשֹׁכְנֵי; חֲרֵי עֶפְרָר וְרִבְּפִים.
(Job 30:6)

This verse is part of the speech in which Job complains about being mocked even by outcasts suffering from famine (vv. 3–4) and repudiation (v. 5). In verse 6, Job notes their miserable conditions by observing that they dwell in clefts of valleys, small shelters in rocks, and *hōrê ‘āpār*. This expression is not translated in the Septuagint, possibly reflecting uncertainty. Modern scholars have suggested three interpretations, all derived from the dust context of meaning of *‘āpār*.

1) Holes of dust:²⁰ This type of shelter does not exist in nature and can hardly be excavated intentionally for a dwelling because a hole of dust is a very temporary structure. If so, such an interpretation should be discarded.

2) Holes in the ground: Extending the meaning of dust to earth facilitates the interpretation of *hōrê ‘āpār* as caves.²¹ Indeed, *hōr* (var *hūr*) evokes in the Bible holes and caves in which people may protect and hide themselves (1 Sam. 14:11; Isa. 42:22) exactly as animals do (Isa. 11:8; Nah. 2:13). In all these cases, however, the hole is never mentioned in association with dust. Such mention is even missing when a snake burrow, which truly is a hole in the ground, is evoked in Isa. 11:8. This makes this interpretation unlikely.

3) Cisterns and wells: Some authors suggest that the expression *hōrê ‘āpār* denotes cisterns.²² It is true that cisterns were frequently plastered, a feature compatible with the meaning of *‘āpār* as plaster. However, cisterns and wells are never called holes of *‘āpār* in the Bible, and the use of such an expression to designate them cannot be justified by literary considerations in structure, rhythm, or alliterations of this verse. Furthermore, to treat them as habitations, the author had to specify that these cisterns were empty of water, as he did not in this verse. Thus, this interpretation also remains problematic.

In the ore context, the expression *hōrê ‘āpār* designates holes from which ore is extracted. It is in this manner that Job refers to outcasts who shelter themselves in the entrances of mines. This very uncommon description fits the geographical context of the book of Job, the

17. H. H. Rowley, *Job* (Nelson: The New Century Bible, 1970), 229.

18. *DCH* 6: 515; P. Dhorme, *Le livre de Job* (Paris: Gabalda, 1926), 368; N. C. Habel, *The Book of Job—A Commentary* (Philadelphia: Westminster Press, 1985), 369.

19. See n. 6.

20. *NIDOTTE* 3: 472; *DCH* 6: 516.

21. Wächter, “Afar,” 259; Habel, *Job*, 413; Pope, *Job*, 217; Rowley, *Job*, 243. This interpretation finds support in the mention of *mēhilôt ‘āpār* in Isa. 2:19.

22. Dhorme, *Job*, 395.

land of Edom. Mining and copper production were the main sources of wealth of this country in the early first millennium B.C.E.,²³ implying that mines were abundant. Furthermore, dwelling in mines implies the cessation of their exploitation. This feature adds an element to the state of desolation of the land that Job describes in the preceding verses.

“They will plunder your riches and loot your merchandise, they will break down your walls and destroy your pleasant houses; Your stones and your woods and your ʿāpār they will cast into the midst of the waters.” (Ezekiel 26:12)

וְשָׁלְלוּ חֵילֶךָ וּבְזָזוּ רְכֻשְׁךָ וְהָרְסוּ חוֹמוֹתֶיךָ
וּבְהִי חֲמֻדֶיךָ תֵּצֵאוּ; וְאֲבֵנֶיךָ וְעֲצֵיךָ נִעְזְרוּךָ
בְּתוֹךְ מַיִם יִשְׂמוּ.

The interpretation of ʿāpār as rubble seems self-evident in this verse, in which Ezekiel details the violent destruction of the city of Tyre.²⁴ In this context, the vision evokes not only the destruction of the walls and houses of Tyre but also the deposit of their components (stones and wood) in the sea. The addition of ʿāpār as rubble to these components apparently expresses an ultimate stage of destruction, in which even the memory of the existence of a city (its debris) is blotted out by enemies. This interpretation is supported by the explicit use of ʿāpār, several verses earlier, to denote the layer of soil that covers the rock of which the island of Tyre is constituted (Ezek. 26:4). It also finds apparent confirmation in the mention of the components of a destroyed house in Lev. 14:45 as “stones, timber, and ʿāpār,” the last-mentioned term unambiguously designating rubble.

A fundamental difference exists, however, between the literary contexts of Lev. 14:45 and Ezek. 26:12. In Leviticus, all the components of the ancient house are removed for the purpose of replacing it with a new house. The text specifies that the materials of the ancient house cannot be reused because of their impurity and the mention of ʿāpār adds that even the rubble cannot serve as grounds for the new one. The perspective is inverted in Ezekiel 26 because the city is expected never to be rebuilt: “You shall be built no more, for I, YHWH, have spoken” (v. 14). In this context, removing the debris of the city may be justified only by one of the following three considerations: 1) The debris is cast into the sea to fill the port of Tyre in order to prevent future maritime activities; 2) The enemies intend to found their own city instead of Tyre, so they must first remove the debris of the old town; 3) The enemies prevent the Tyrians’ reuse of ancient materials to reconstruct their city. Nothing in Ezekiel’s prophecy supports the first two eventualities. The third cannot explain why even the rubble will be thrown into the sea. Accordingly, ʿāpār may be interpreted as rubble as long as verse 12 is examined separately. The incompatibility of this interpretation with its literary context, however, invites us to examine this verse in view of the ore meaning of ʿāpār.

Three distinct actions are mentioned in Ezek. 26:12: 1) the spoliation of precious artifacts, 2) the destruction of the bulwark and the houses of the city, 3) the hurling of the stone, wood, and ʿāpār into the sea. In its meaning of ore, ʿāpār denotes the precious ores in which the Tyrians traded. By extension, the wood and stones mentioned immediately before are not

23. Concerning evidence of Edom as the setting of the book of Job, see Dhorme, *Job*, xiv–xxiii; J. Day, “How Could Job Be an Edomite?” in *The Book of Job*, ed. W. A. M. Beuken (Leuven: Leuven Univ. Press, 1994), 392–99. For metallurgy as a primary source of wealth in Edom, see T. E. Levy and M. Najjar, “Edom and Copper: The Emergence of an Ancient Israelite Rival,” *BAR* 32 (2006): 24–35; J. M. Tebes, “The Wisdom of Edom,” *BN* 143 (2009): 97–117, 107–9.

24. See, for example, M. Greenberg, *Ezekiel 21–37* (New York: Doubleday, 1997), 528, 534; D. I. Block, *The Book of Ezekiel, Chapters 25–48* (Grand Rapids: Eerdmans, 1998), 38, and W. Zimmerli, *Ezekiel 2* (Philadelphia: Fortress Press, 1983), 29. Zimmerli (p. 36) extends the representation to the act of throwing even the soil of Tyre into the sea.

components of the destroyed houses but rather other precious raw materials traded by the Tyrians. This interpretation is supported by the following considerations:

Tyre is famous in the Bible for trade in precious stones (Ezek. 27:22, 24) and cedar wood (1 Kings 5:8–9). Trading in ore is suggested in Ezek. 27:12, a verse that mentions the central importance of Tyre in controlling the circuit of distribution of tin, because tin was frequently traded as cassiterite (tin ore) and not as metal. The three materials are designated in Ezek. 26:12 as *your stones, your wood, and your ʿāpār*. This formulation is unusual for components of destroyed houses. It is even incongruous if ʿāpār truly denotes their worthless debris. It fits the mention of something that specifically belongs to the Tyrians, such as the precious raw materials in which they traded. The prophecy against Tyre extends into the next chapter with the specific mention of merchandise from the city that is thrown into the sea (Ezek. 27:27, 34). This again corresponds to the interpretation of ʿāpār as ore in Ezek. 26:12.

The interpretation of ʿāpār as ore also clarifies the meaning of the vision as a whole. After spoiling everything that may be of immediate interest and value and after destroying the city, the enemy throws the raw materials traded by Tyre into the sea: stones, woods, and ores. This reflects the enemy’s profound disinterest in the commercial activity that made the wealth and glory of the city possible. It represents therefore the ultimate humiliation. It also clarifies why Ezekiel may confidently assume that Tyre will not be reconstructed. The indifference of the rising political powers to the source of the city’s renown is a way to claim that Tyre has now lost its *raison d’être* and is therefore condemned to disappear definitively. The interpretation of ʿāpār as ore clarifies not only the meaning of the verse but also the reality behind the prophecy.

THE FIGURATIVE MEANING OF ʿĀPĀR AS ORE

“Lay on ʿāpār gold; among stones of the torrent bed [gold of] וְשַׁת עַל עֶפֶר בְּצֹר; וּכְצֹר נְחָלִים אוֹפִיר
Ophir.” (Job 22:24)

Most commentators follow the Septuagint translation of ʿāpār as *χῶμα* (the surface layer of the soil). This verse becomes an invitation to Job to set out his gold on dust, a metaphor interpreted as a demand to leave his goods behind in order to focus exclusively on knowledge of YHWH. This interpretation, however, is incompatible with the fact that Job has already lost all his goods. Alternatively, then, some scholars suggest that Elipaz mentions the complete restoration of Job’s fortune so that gold will become as common as dust for him.²⁵ Nothing in this verse or its literary context, however, supports such an interpretation.

Once the ore meaning of ʿāpār is invoked, however, this verse loses its obscurity. In antiquity, gold was extracted not only from mines but also from alluvial deposits. This other type of gold ore is apparently evoked here in the expression “stones of torrent” (*šûr nēḥālîm*, v. 24b), which suggests alluvial deposits. The verse structure (ABC-B’C’) clearly establishes a parallel between ʿāpār (B) and “stone of torrent” (B’), enhancing the validity of the interpretation of ʿāpār as ore. In this verse, Elipaz apparently refers to the reversion of gold (= the fortune accumulated by Job) to ore, a term that refers here to the gold as it had existed before being extracted from its unprocessed state.

The reinsertion of gold into the stones from which it had been extracted is impossible. However, an accumulation of Job’s gold in alluvial deposits, the alternative gold ore, is per-

25. Rowley, *Job*, 197–98. This interpretation refers to the promise to Abraham that his offspring will be as innumerable as the “dust” of the earth (Gen. 13:16).

fectly conceivable.²⁶ In this manner, Elipaz invites his friend to a philosophical meditation about the vanity of man's efforts to accumulate wealth by extracting it from nature because the riches will return to their initial state sooner or later. The 'āpār-ore context provides a coherent interpretation of the verse and fits it into the literary context of Job 22.

“And its [Edom's] streams thereof shall be turned into pitch, and וַיִּהְיוּ נַחְלֵיהָ לְזֶפֶת וַעֲפָרָה לְגִפְרִית׃
its 'āpār thereof into *goprît*: and its land thereof shall become וְהָיְתָה אֶרְצָהּ לְזֶפֶת בַּעֲרָה.
burning pitch.” (Isaiah 34:9)

Scholars have suggested that a volcanic eruption destroying the land of Edom is envisioned here. In such a context, the transformation of 'āpār into *goprît* evokes the emission of hot volcanic sulfur ashes that devastate the soil of this land.²⁷ This interpretation is, however, unlikely for the following reasons: It is stated here that Edom's 'āpār will be transformed into *goprît*. This description is inappropriate for the accumulation on the land of volcanic ash that descends from the heavens. The term *zēpet* is never used in the Bible to describe lava that flows through valleys.²⁸ In the languages in which cognates of *zēpet* exist, they always designate pitch.²⁹ In the subsequent verse (Isa. 34:10), it is promised that the smoke thereof shall go up forever from the whole land of Edom. Such a description is unexpected in the case of volcanism, in which only the crater and the lateral chimneys may emit smoke long after the eruption.

The reference to volcanism is not necessary here to understand this vision, because pitch spontaneously flows in the valleys surrounding the Dead Sea.³⁰ It seems, therefore, that Isa. 34:9 simply foresees that this flow will increase and that this flammable matter will ignite and permanently feed the fire.

If 'āpār is transformed by fire into *goprît* in the case at hand, the meaning of the latter term may help us to clarify what 'āpār designates here. The term *goprît* is generally understood as denoting mineralized sulfur stone (*brimstone*). We may doubt, however, that this meaning is appropriate here because brimstone is a native mineral, i.e., it is not produced through transformation by fire of any other material. Furthermore, brimstone is a relatively rare substance that was used in the ancient Near East not for its combustion properties but essentially for the fabrication of small amulets and remedies against skin and eye diseases.³¹ These uses strongly diverge from those relative to the seven mentions of *goprît* in the Bible. Among them, six are closely related to combustion.³² In the seventh (Job 18:15), *goprît* is intentionally scattered on the soil to render it unfit for cultivation. These uses suggest that *goprît*, in the Bible, denotes not brimstone but something else that exists in considerably larger quantities.

In the ore meaning of 'āpār, the transformation by fire that yields *goprît* becomes the roasting of ore, a pre-smelting process evidenced from the earliest stages of metallurgy in the

26. This detail enriches the metaphor: Job's ruin is pictured as the carrying away of his goods by a swelling river.

27. H. Wildberger, *Isaiah 28–39 – A Continental Commentary* (Minneapolis: Fortress Press, 2002), 333; O. Kaiser, *Isaiah 13–39 – A Commentary* (London: SCM Press, 1974), 358.

28. See J. Koenig, “Aux origines des théophanies iahvistes,” *RHR* 169 (1966): 1–36.

29. *HALOT* 1: 177.

30. Many valleys near the Dead Sea and the Arabah (near the territory of Edom) display flows of pitch. The name *naḥal ḥemar* (literally “valley of pitch”) in the Arabah well reflects such a reality.

31. Aufrère, *L'univers minéral*, 637–38.

32. Gen. 19:24; Deut. 29:22; Isa. 30:33; 34:9; Ezek. 38:22; Ps. 11:6.

southern Levant.³³ This interpretation is confirmed in Ps. 11:6, where a fiery reality combining *goprît* with coals, reminiscent of the smelting of roasted ore in the furnace, is described.³⁴ This roasting facilitates the crushing of ore before its smelting and brings about the complete oxidation of the copper salts before they are reduced in the furnace. It also triggers oxidation and the elimination of sulfides and heavy metals from the ore before the smelting process. If the ore is naturally rich in sulfides, the roasting process, once initiated by the addition of fuel, sustains itself for several days at about 400–500 °C due to the oxidation of the sulfur components.³⁵

In Isa. 34:6–7, the fat of the sacrifices is mixed with *‘āpār* immediately before it is transformed into *goprît* (v. 9). This recalls the addition of fuel necessary for initiating the roasting process. Furthermore, the burning of *‘āpār*, once initiated, sustains itself without any addition of fuel.³⁶ In Isa. 34:10, the desolation of the land of Edom that follows the transformation by fire of *‘āpār* into *goprît* (v. 9) coincides with the fact that the roasting process is highly toxic to the land and its vegetation, due to the release of heavy metals and sulfides inherent to their oxidation.³⁷

These considerations confirm that *‘āpār* in Isa. 34:9 designates the ore in its pre-roasting state. The meaning of this metaphoric image of the divine punishment of Edom is clarified two verses before, in which the parallel with *‘eres* clearly indicates that *‘āpār* denotes the soil of the land of Edom: “Their land (*‘eres*) shall be soaked with blood, their soil (*‘āpār*) shall be gorged with fat” (Isa. 34:7). The coexistence of these two meanings of *‘āpār* generates a metaphoric representation of the land of Edom as a copper mining area. This metaphor is especially relevant because Edom as a whole was identified in the Iron Age as a land of mining and production of copper.³⁸

“He shall give as *‘āpār* his sword; as stubble driven by the wind his bow.” (Isaiah 41:2) תִּן כְּעֶפֶר חֶרְבוֹ כְּקֶשֶׁת נִדְרָה קֶשֶׁתוֹ׃

In this verse, the identity of both the subject and of the third-person singular in the expression “his sword” remains obscure. Consequently, the verse has been read in several ways, all based on the interpretation of *‘āpār* as dust or one of its derivatives.

1) *‘āpār* as dust: Most translators assume that the sentence evokes the transformation of the enemies into dust when facing the sword that ostensibly symbolizes Cyrus and his army. This interpretation is challenged by the original text, which links *‘āpār* with the sword and not with its victims.

2) *‘āpār* as dead bodies: It has been suggested that the scene takes place in the netherworld, in the court where YHWH judges the warriors. In this context, the dead are likened

33. Traces of such a process have been identified at the Chalcolithic site of Abu Matar (Beer Sheba). See J. Perrot, “The Excavations at Abu Matar, near Beer Sheba,” *IEJ* 5 (1955): 73–84.

34. The strong sulfur smell associated with this roasting process is probably the source of the extension of the appellation *goprît* (= *kibritu/kibrit*) from roasted ore to elements and minerals of strong sulfur smell, such as brimstone, volcanic ashes, or even sulfurous water springs, such as those abundantly encountered in the vicinity of the Dead Sea. This provides more material support to the vision evoked in Isa. 34:9–10.

35. W. Rostoker, “Some Experiments in Prehistoric Copper Smelting,” *Paléorient* 3 (1975): 311–15.

36. *goprît* is translated as *θεῖον* in the Septuagint, a term evoking a mineral with a heavy sulfuric odor (brimstone, but also roasted ore). Interestingly, *θεῖον* in Greek also evokes the phenomena of flashing and sparking that are extensively observed during the roasting of sulfide copper ore.

37. Beyond the roasting process, the roasted ore is also toxic, as mentioned in Job 18:15–16. This is due to the enhanced mobility of the copper ions and other salts following their oxidation.

38. See n. 23.

to ʿāpār.³⁹ This interpretation should be rejected for the same reason noted in 1). It is also incompatible with the subsequent image that likens bows to stubble, a simile that has nothing to do with such a subterranean reality.

3) ʿāpār as earth: The Septuagint interprets the sentence as “He will place their daggers in the earth (γῆ).” This solution implies the emendation of the expression “give/make” as āpār. Furthermore, it does not promote any simple parallel with the second part of the metaphor, which involves the bow.

4) ʿāpār as multitude: Some exegetes suggest that ʿāpār connotes the amplification of power: YHWH multiplies the sword (of Cyrus) so that it will be as abundant as dust.⁴⁰ This interpretation, again, does not support the parallel mention of the bow and the stubble driven by the wind, because the idea expressed by the latter is not the amplification of the weapon but its inefficiency.

5) ʿāpār as ʿōperet (lead): It has been suggested that ʿāpār should be emended to read ʿōperet (lead), so that the verse expresses an inability to fight because the sword has become heavy as lead.⁴¹ This solution emphasizes a contrast between the sudden heaviness of swords (v. 2a) and the sudden lightness of bows (v. 2b). In such a case, we have to assume a contradiction between the sudden heaviness of the sword (2a) and the sudden lightness of the bow (2b) that prevents their use for fighting. Both assumptions (emendation plus antagonistic views) render this proposition speculative.

This multiplicity of solutions seeks to resolve the tremendous difficulty that arises in understanding this verse when the context of ʿāpār as dust is upheld. Again, clarity ensues when the ore meaning is invoked. Copper rust (verdigris) is a fine powder that looks like ground malachite, the copper ore mined in southern Canaan. Rust copper was recycled by furnace re-melting and reconverted into metal. This is why verdigris, exactly like ore, may be considered a raw material for the production of copper. Interpreting ʿāpār as rust/verdigris clarifies the meaning of this verse: YHWH will make the sword of the enemy unusable by oxidizing its metal. This meaning is fully compatible with the parallel simile evoked immediately afterward, in which the bow is likened to stubble scattered by wind. At this stage, stubble is so dry that it loses its elasticity. The image, therefore, evokes the breaking of bows when an attempt to string them is made, exactly as an oxidized sword breaks in the hand of its intended user. This verse becomes a metaphor claiming that YHWH will not only establish justice in the land (v.1) but also render inefficient the weapons used by peoples to destroy one another (v. 2).

THE THEOLOGICAL DIMENSION OF THE MEANING OF ʿĀPĀR AS ORE

“Before he [YHWH] had made the earth with its fields; and the germ of the world’s ʿaprôt.” (Proverbs 8:26) עַד לֹא עָשָׂה אֶרֶץ וְחוּצוֹת; וְרֵאשׁ עֲפְרוֹת תִּבְלֵל.

This verse concludes the first half of Lady Wisdom’s poem (Prov. 8:22–31), which asserts the anteriority of her birth to any other event of creation. It ends with the mention of something curiously rendered as “the germ of the world’s ʿaprôt.” Four interpretations have been

39. K. Baltzer, *Deutero-Isaiah* (Minneapolis: Fortress Press, 2001), 88.

40. J. L. Koole, *Isaiah, Part 3, vol. 1: Isaiah 40–48* (Kampen, Netherlands: Kok Pharos Publishing, 1997), 139.

41. This interpretation is reported by Koole, *Isaiah*, 139.

proposed to explain this expression, all flowing from the understanding of *ʿaprôt* (plur. *ʿāpār*) in the sense of dust.

1) *ʿāpār* as dust: Most scholars assume that the verse describes the earth (*ʿereṣ*) as a whole, followed by two of its components: open fields (*ḥûṣôt*) and arable land, a material of fine particles of “dust.”⁴² This rendering, however, cannot explain why the poet does not simply speak of *ʿāpār*, as one would expect, and instead prefaces the word with “head” (= “germ”).

2) *ʿāpār* as earth: Other researchers suggest that the three expressions in v. 26—earth, fields, and germ of the world’s *ʿaprôt*—are strictly equivalent, all denoting the earth.⁴³ The last-mentioned expression, however, implies that *ʿāpār* refers not to the earth as a whole but only to a specific part of it.

3) *ʿāpār* as elementary matter: It has been suggested that the expression “germ of the world’s *ʿaprôt*” denotes the elementary matter of which the earth is constituted.⁴⁴ Were this so, however, one would expect the mention of this primeval reality to precede that of the earth at large, and not to follow at the end of v. 26.

4) *ʿāpār* as dirt: “Germ of the world’s *ʿaprôt*” has also been translated as “clods of dirt,” an expression basically designating the fine upper layer of soil mixed with organic fertilizers.⁴⁵ This interpretation is unlikely for at least three reasons: the poem evokes the earliest stage of creation, long before the emergence of agriculture and fertilization; the upper layer of the soil is not *created* at origin but continuously generated through fertilization; this interpretation cannot explain the use of *ʿāpār* in the plural.

The lack of a satisfying interpretation of *ʿāpār* in Prov. 8:26, among the derivatives of dust, prompts us to seek the answer in the context of ore. Accordingly, the expression “germ of the world’s *ʿaprôt*” in v. 26 designates the “germ of the ores of the world,” a poetic way of expressing the creation of subterranean mineral treasures. This interpretation is supported by the following evidence: In the context of creation, the first term in v. 26, *ʿereṣ*, clearly denotes the earth as a whole (as in Gen. 1:10, 2:1, 4). The second term, *ḥûṣôt*, is used in the Bible to designate fields (as in Job 5:10) or meadows (as in Ps. 144:13), both belonging to the visible part of the earth. To complete the description, the third term should relate to something associated with the invisible part of the earth.

The term *ʿāpār* is used here in the plural. This fits the mention of the multiplicity of mineral ores (relative to the many metallic ores and precious stones that are mined) rather than the homogeneity of the microscopic matter that the context of dust brings to mind. Among the many (110) uses of *ʿāpār* in the Bible, the only recurrence in the plural is found in Job 28:6, where it clearly designates ore (see above).⁴⁶

Mineral treasures are found deep in the earth, close to the “foundation” of the mountains (cf. Job 28). Accordingly, they are thought to have been created at the primeval stage of orogenesis. Therefore, mineral treasures are mentioned as a device referring specifically to the earliest stage of creation. This detail is of importance in a song that praises the emergence of Lady Wisdom before any other event in creation. The enigmatic expression “germ of the

42. B. N. Walkte, *The Book of Proverbs: Chapters 1–15* (Grand Rapids: Eerdmans, 2004), 411.

43. Fox, *Proverbs*, 283.

44. BDB 779–80; NIDOTTE 472; R. N. Whybray, *Proverbs* (Grand Rapids: Eerdmans, 1994), 133.

45. R. N. Whybray, *Wisdom in Proverbs: The Concept of Wisdom in Proverbs 1–9.45* (London: SCM Press, 1965), 413–14.

46. Immediately before this poem of creation, wisdom is likened specifically to gold and treasures (Prov. 8:10–11, 17, 19, 21). Exactly as in Job 28:6, this reinforces the interpretation of *ʿāpār* as ore.

world's 'aprôt" finds an explanation in the mining context: mineral treasures in antiquity were supposed to be continuously "generated" from the deepest layers of the mines.⁴⁷ The interpretation of 'aprôt as ores fits this image of their being produced from "germs" located in the depths.

These considerations indicate that 'āpār in Prov. 8:26 should be interpreted in the context of ore and not in that of dust. This conclusion is of theological importance in a poem devoted to the divine creation of the world. The specification of the creation of Lady Wisdom *before* the scattering on the earth of the germs of mineral treasures implies that she knows their precise location. This detail, mentioned at the end of the first part of the poem, reveals a homology between Lady Wisdom in Proverbs 1–9 not with Ma'at, as is sometimes suggested,⁴⁸ but rather with Hathor, the Egyptian goddess of wisdom, who is specifically acknowledged to guide her beloved worshippers towards mineral treasures.⁴⁹

Two points in the second part of the poem confirm this identification. The first is the term 'āmôn in v. 30, evoking Lady Wisdom as an artisan and, by extension, as the patroness of artisans, just like Hathor in Egypt. The second is the term *mēsāheqet* (v. 31), which explicitly associates Lady Wisdom with dance, entertainment, and joy, matching the association of Hathor in ancient Egypt.⁵⁰ Therefore, the reference to 'āpār in the mining context allows us to identify the object of Lady Wisdom's reference in this poem of creation. This goddess is the "female emissary" of the supreme deity; she reveals mineral treasures, wisdom, secret knowledge, poetry, music, dance, and love to mankind.

“YHWH-Elohim said to the serpent: Because you have done this, cursed are you above all livestock and above all beasts of the field; on your belly you shall go and you shall eat all the days of your life.” (Genesis 3:14)

וַיֹּאמֶר יְהוָה אֱלֹהִים אֶל הַנָּחָשׁ כִּי עָשִׂיתָ זֹאת אָרוּר אַתָּה מִכָּל הַבְּהֵמָה וּמִכָּל חַיַּת הַשָּׂדֶה; עַל גַּחְלֹנֶךָ תֵּלֵךְ וְעָפָר תֹּאכַל כָּל יְמֵי חַיֶּיךָ.

The term *āpār* in Gen. 3:14 is consistently interpreted as alluding to dust. This approach is apparently supported by the parallel mention of Adam originating in 'āpār in Gen. 3:19 and from soil ('ādāmāh) in Gen. 2:7. This interpretation, however, creates a problem in understanding the meaning of the curse expressed in Gen. 3:14. Whereas the first part of the verse is realistic (serpents actually do crawl on their bellies), the second part of the curse remains mysterious (serpents eat nothing that belongs to the semantic field of dust). To resolve this problem, three interpretations have been proposed.

47. M. Eliade, *Forgerons et alchimistes* (Paris: Flammarion, 1977), 35–44.

48. This "Lady Wisdom" has been related to Ma'at, the Egyptian personification of wisdom. This comparison is unsatisfactory, however, because Ma'at, unlike Lady Wisdom, does not directly address men. She remains mainly a non-speaking abstraction of truth, justice, inviolable rules, and world order. See R. E. Murphy, *The Tree of Life* (New York: Doubleday, 1990), 162; Whybray, *Wisdom in Proverbs*, 55; G. von Rad, *Wisdom in Israel* (London: SCM Press, 1972), 174.

49. The identification of Ma'at with Hathor is revealed at the temple of Dendara, where Hathor is clearly addressed as Ma'at (see C. J. Bleeker, *Hathor and Thoth: Two Key Figures of the Ancient Egyptian Religion* [Leiden: Brill, 1973], 69), and in the Coffin Texts (IV, Spell 331), where Hathor is called "the mistress of the Universe who lives by Ma'at." Her connection with mineral treasures is revealed by the many votive inscriptions from Serabit that call the goddess "the green" (= copper ore), "the lady of turquoise (*mafek*)," "the golden," or "the mistress of galena." In other inscriptions, she is called the lady of amethyst and of other precious stones. See D. Valbelle and C. Bonnet, *Le sanctuaire d'Hathor, maîtresse de la turquoise* (Paris: Picard, 1996), 37; A. E. R. Al Ayedi, "The Cult of Hathor as Represented on the Stelae at Serabit el Kadim," *Bulletin of the Egyptian Museum* 4 (2007): 23–26; E. A. W. Budge, *The Gods of the Egyptians*, vol. I (London: Methuen, 1904), 430.

50. R. J. Clifford, *Proverbs—A Commentary* (Louisville: Westminster John Knox, 1999), 97–100; R. E. Murphy, *Proverbs* (Waco, TX: Word Books, 1998), 53.

1) *ʿāpār* as soil/dust: This is the most frequent interpretation of *ʿāpār* in Gen. 3:14. This expression does not signify that serpents truly eat dust; instead, it refers to their locomotion on dust. Accordingly, the two successive locutions become parallel expressions that evoke one single curse. This interpretation is supported by the general description of reptiles as creatures that crawl in the dust/earth (*zōḥālê ʿāpār*) in Deut. 32:24. Nevertheless, it is challenged here by the specific mention that serpents *eat* dust and do not simply crawl on it.

2) *ʿāpār* as dirt: Some authors have suggested that the second part of the curse is merely a consequence of the first: the serpent necessarily eats what he crawls on.⁵¹ The mention of *ʿāpār* (as dirt) becomes simply a way to amplify the first part of the curse and to stress the impure nature of the animal. Two problems arise with this interpretation. The first is that serpents are very clean and even odorless animals. The second is that *ʿāpār* is also evoked in the curse of man several verses later (Gen. 3:19) without any relation to dirtiness, crawling, or impurity. This renders this interpretation of *ʿāpār* unlikely, too.

3) *ʿāpār* as humiliation: Feeding on *ʿāpār* is a figurative expression of humiliation in Isa. 49:23 and Ps. 72:9.⁵² In Mic. 7:17, this abasement is explicitly related to the motion of the serpent: “They shall lick the dust (*ʿāpār*) like serpents, as the creeping things of the earth.” In all these cases, however, the metaphor of eating dust expresses the idea of submission or abdication. The curse of the serpent in Gen. 3:14, in contrast, is followed immediately (v. 15) by the mention of a perpetual struggle between the descendants of the serpent and those of Eve. This disproves the association of *ʿāpār* with humiliation and abasement in this verse.

None of the explanations emanating from the dust meaning provides a satisfying interpretation of the curse enunciated in Gen. 3:14. This again invites us to seek the meaning of this verse in the ore context of *ʿāpār*.

The term *nāḥāš* in Genesis 3 is routinely interpreted as a living serpent. However, *nāḥāš* also designates copper in both biblical Hebrew and Aramaic.⁵³ Furthermore, the term *nēḥūšāh* is extensively used in the Bible to denote bronze/copper.⁵⁴ The reference to the bronze serpent as *nēḥūstān* (2 Kings 18:4) shows that the Israelites were well aware of the semantic nexus of copper and snake.

Copper (*nāḥāš*) is produced from ore (*ʿāpār*). Furthermore, the image of the serpent eating *ʿāpār* all the days of his life evokes the fact that, unlike gold, copper is not a stable material once smelted. Because copper rusts, implements made of it must be periodically re-melted in a furnace to regenerate the metal of which they are constituted. This encourages a metallurgical interpretation of the curse of eating *ʿāpār*, which is supported by the following considerations:

The serpent was a symbol of copper metallurgy in the ancient Near East. In the Levant and the Arabian Peninsula, snake worship is clearly evidenced in mining areas, where it was practiced in close relation with ritual metallurgy.⁵⁵ In Mesopotamia, the patron gods

51. E. A. Speiser (*Genesis* [New York: Doubleday, 1964], 22) translates this curse as follows: “On your belly shall you crawl and on dirt shall you feed all the days of your life.” This opinion is apparently supported by the assumption, in Lev. 11:42–44, that crawling animals transfer their “impurity” to those who consume them.

52. See Wächter, “Afar,” 260; G. J. Wenham, *Genesis 1–15* (Waco, TX: Word Books, 1987), 79; K. A. Mathews, *Genesis 1–11:26* (Nashville: Broadman and Holman Publishers, 1996), 244.

53. 1 Chron. 4:12, *nāḥāš* in Job 6:12; Dan. 2:32, 35, 39, 45; 4:12, 20; 5:4, 23; 7:19.

54. Lev. 26:19; 2 Sam. 22:35; Isa. 45:2; 48:4; Mic. 4:13; Ps. 18:35; Job 6:12; 20:24; 28:2; 40:18; 41:19.

55. B. Rothenberg, *The Egyptian Mining Temple at Timna* (London: Institute for Archaeo-Metallurgical Studies, 1988), 147; D. T. Potts, “Revisiting the Snake Burials of the Late Dilmun Building Complex on Bahrain,” *Arabian Archaeology and Epigraphy* 18 (2007): 55–74; A. Benoist, “An Iron Age II Snake Cult in the Oman Peninsula: Evidence from Bithnah (Emirate of Fujairah),” *Arabian Archaeology and Epigraphy* 18 (2007): 34–54.

of metallurgical activity were closely related to fiery serpents (dragons).⁵⁶ Their Egyptian counterpart, Ptah, is identified with the cosmic dragon Ir-ta.⁵⁷ The same ophidian symbolism is encountered in ancient Greece, where Hephaestus is the father of the serpent-god Erichthonius.

The mention of ʿāpār in the curse of the serpent (v. 14) is echoed by the mention of ʿāpār in the curse of man (Gen. 3.19). In the latter, ʿāpār explicitly evokes the loss of everlasting life and its replacement with a new mode of existence, through procreation and death.⁵⁸ In the ancient Near East, both realities (eternity and death and procreation) are closely related to the serpent symbol.⁵⁹ Concurrently, they are also specifically related to metallurgy, as evidenced by the frequent use in ancient Egypt of copper ore, charcoal, slag, and furnace fragments in funerary contexts.⁶⁰ These findings suggest that death was conceived as being closely related to the process of furnace re-melting.⁶¹

It is noteworthy that the first son of Adam and Eve, born immediately after the curses of the serpent, man, and woman, is named *Cain* (Gen. 4:1). This name specifically denotes ‘the smelter’, a feature confirmed by his lineage in Genesis 4⁶² and demonstrating again that the events referenced in the curse are closely related to metallurgy.

According to these considerations, it seems that the myth evoked in Genesis 3 exploits both meanings of ʿāpār. The first, dust, expresses a superficial, etiological dimension of meaning of the myth. The second, ore, enunciates the deep significance of the cultural transformations introduced by the invention of the furnace metallurgy of copper and the changes that they stimulated in the attitude toward holiness and the divine universe as a whole.

56. Enki is called the snake from Apsu. See P. Espak, “Ancient Near Eastern Gods Enki and Ea: Diachronical Analysis of Texts and Images from the Earliest Sources to the Neo-Sumerian Period” (Ph.D. diss., Univ. of Tartu, 2006), 51–53. Also, Ea is closely associated with snakes. See E. A. W. Budge, *The Babylonian Legends of the Creation* (London: British Museum, 1921), 24–26. Ningizzida, his homologue, is generally represented as a dragon. See E. D. Van Buren, “The God Ningizzida,” *Iraq* 1 (1934): 60–89; D. K. McDonald, “Serpent Imagery on Ancient Near Eastern Pottery” (Ph.D. diss., Columbia Univ., 1989), 29–35; F. A. M. Wiggermann, “Transtigridian Snake Gods,” in *Sumerian Gods and Their Representations*, ed. I. L. Finkel and M. J. Geller (Groningen: Styx, 1997), 33–55.

57. S. Sauneron and J. Yoyotte, “La naissance du monde selon l’Égypte ancienne,” in *La naissance du monde* (Paris: Seuil, 1959), 17–92; E. Cruz-Uribe, “The Khonsu Cosmogony,” *Journal of the American Research Center in Egypt* 31 (1994): 169–89.

58. G. de Villiers, “Why on Earth? Genesis 2–3 and the Snake,” *OTE* 20 (2007): 632–40.

59. K. R. Joines, *Serpent Symbolism in the Old Testament* (Haddonfield, NJ: Haddonfield House, 1974), 16–21; L. S. Wilson, *The Serpent Symbol in the Ancient Near East: Nahash and Asherah: Death, Life and Healing* (Lanham: Univ. Press of America, 2001), 19–47.

60. This practice is extremely ancient: malachite, found as a deposit, was apparently spread on the dead before burial in pre-dynastic Egypt. Evidence for the existence of this custom is the green color so frequently observed on bones and the presence of charcoal in burials. See B. Midant-Reynes, *Aux origines de l’Égypte—Du néolithique à l’émergence de l’état* (Paris: Fayard, 2003), 164–84. This explains why green was traditionally considered the color that symbolized resurrection in ancient Egypt. See Budge, *The Gods of the Egyptians*, 127.

61. The metallurgical symbolism of death and afterlife recurs in prehistoric Europe, where the burial place of the elite (kurgan) was apparently shaped like a furnace. R. L. Dieterle (The Metallurgical Code of the Volundarkvida and Its Theoretical Import,” *HR* 27 [1987]: 1–31) suggests that “[t]he older domed furnaces that preceded the volcanic designs of the Iron Age were almost perfect images of the megalithic tombs and, for that matter, of the individual ‘kurgan’ style tomb of the Indo-European peoples.” A tradition of cremation at elevated temperatures (above 1000 °C) is even attested in Bronze Age Scandinavia, a feature clearly expressing a belief in postmortem regeneration through furnace re-melting. See J. Goldhahn and T. Oestigaard, “Smith and Death—Cremations in Furnace in Bronze and Iron Age Scandinavia,” in *Facets in Archaeology: Essays in Honour of Lotte Hedeager on Her 60th Birthday*, ed. K. Chilidis, J. Lund, and C. Prescott (Oslo: Oslo Academic Press, 2007), 215–41.

62. This metallurgical context is confirmed by further considerations about Cain in Genesis 4. See J. F. A. Sawyer, “Cain and Hephaestus: Possible Relics of Metalworking Traditions in Genesis 4,” *Abr-Nahrain* 24 (1986): 155–66; P. M. McNutt, “In the Shadow of Cain,” *Semeia* 87 (1999): 45–64.

“The wolf and the lamb shall graze together, the lion shall eat straw like the ox, and *‘āpār* shall be the serpent’s food; They shall not hurt or destroy in all my holy mountain, said YHWH.” (Isaiah 65:25)

יָאֵב וְטִלְיָה יִרְעוּ כְאֶחָד וְאַרְיֵה כְּבָקָר יֹאכֵל
תְּכַן וְנִחֵשׁ עֵפֶר לְחֵמוֹ; לֹא יִרְעוּ וְלֹא יִשְׁחִיתוּ
בְּכָל הָר קְדוֹשֵׁי אֲמֵר יְהוָה.

Three successive metaphors are introduced in this vision. The first two are easy to understand: they evoke a peaceful cohabitation between a predator and its prey. But why is the image of the serpent, who is expected to eat *‘āpār*, associated with that of the wolf and the lion, who are expected to eat grass? The dust context of meaning of *‘āpār* yields two possible explanations:

1) Change in sustenance: Dust will become the food of the serpent just as grass will become the victuals of the lion and of the wolf. This parallel is problematic because the lion and the wolf are mentioned as cohabitating with herbivorous animals who were once their prey; the serpent, in contrast, is described alone. This disproves the existence of such a parallel between them.

2) Eternal nature of the curse: The change that the lion and the wolf are expected to undergo does not concern the serpent, who is already excluded due to its primeval curse in Eden. This interpretation is challenged by the literary context of this verse, which is incompatible with the idea of curses persisting in the renewed world that Isaiah envisions. Furthermore, this interpretation depends on the interpretation of *‘āpār* as dust in Gen. 3:14, which has been challenged above.

These considerations reveal once more that the meaning of this verse remains obscure as long as *‘āpār* is interpreted as dust. They invite us, therefore, to reinterpret Isa. 65:25 with *‘āpār* construed as ore. The mention of the serpent alone, in contrast with the lion and the wolf who cohabit with an inoffensive animal, may be justified by the coexistence of two categories of serpent species: venomous and inoffensive. Accordingly, the isolated mention of the serpent is a way of claiming that the venomous serpents will be as inoffensive in the future as the serpent who currently eats *‘āpār*.

This interpretation is confirmed by the coexistence of two types of serpents in Canaanite mythology: the good serpent, the *nahastob* (designated in Greek as *Agathos daimon*), who is worshipped in temples, and the evil serpent, who is feared for its lethal venom.⁶³ This duality is also identifiable in the Bible: on the one hand, the serpent is a sign from YHWH (Exod. 4:3) and serpents surround the throne of the deity in Isaiah’s vision (Isa. 6:2–3). On the other hand, the serpent is explicitly mentioned as an evil creature.⁶⁴

The “good serpent” was apparently closely related to copper in ancient Israel, as evidenced in the name of the copper serpent, *Nehushtan*, which was worshipped at Jerusalem in close relation with YHWH (2 Kings 18:4), and the specific mention of its metallurgical nature in Num. 21:8–9.⁶⁵ In Phoenicia, the “good serpent” was considered self-regenerating through death by fire, exactly as metal is regenerated by furnace re-melting,⁶⁶ a wondrous

63. Concerning the *nahastob* and its cult in northern Canaan, see Wilson, *Serpent Symbol*, 50–51, 171–82. The Ugaritic spell against snakebites (KTU 1.100) is an incantation to the gods to neutralize the lethal venom; it lacks any indication of a positive dimension to the serpent. This confirms the coexistence in Canaanite mythology of two distinct serpents with opposite properties.

64. See, for example, Jer. 8:17; Amos 5:19; Pss. 58:5; 140:4.

65. Concerning the metallurgical affinities of the miracle of the serpent in Exod. 4:3, see N. Amzallag, “YHWH: The Canaanite God of Metallurgy?” *JSOT* 33 (2009): 387–404. This good serpent has been identified in the Bible with *Echis coloratus* (see N. Amzallag, “The Origin and Evolution of the Saraph Symbol,” *Antiquo Oriente* 13 [2015]: 99–126), a viper species with moderately toxic venom.

66. Wilson, *Serpent Symbol*, 61–62.

process whence it derived its powers of rejuvenation and healing. The existence of living serpents that were worshipped and handled in temples in the Levant, ancient Egypt, and Greece suggests that the “good serpent” was identified in antiquity with a relatively inoffensive species of ophidian.

These considerations clarify the reference to ʿāpār-ore as the serpent’s food in Isa. 65:25. This vision expects a dangerous animal to metamorphose into an inoffensive species in the future. In this context, the mention of serpents eating exclusively ʿāpār in the future reveals that these serpents will become not only inoffensive but also “good,” just like those worshipped in temples for their powers of rejuvenation, healing, and vitality in close relation with furnace re-melting. This interpretation enables us to understand why Isaiah associates this vision not only with the end of violent death (v. 25) but also with the disappearance of illness and disease (v. 20).

THE ORE MEANING OF ʿĀPĀR

The present study has shown that ʿāpār, in Hebrew, denotes not only dust and its derivatives but also metallic ores, and that this second meaning has long been overlooked by translators, exegetes, and scholars. The latter conclusion has been challenged by the fact that the term ʿaprāh in modern Hebrew designates ore. This nominative, however, is a modern locution derived from the expression ʿaprôt zāhāb in Job 28:6, a feature confirming that the meaning of ʿāpār as ore in biblical Hebrew is still ignored.⁶⁷

The examples detailed here show that ignorance of the ore meaning of ʿāpār frequently obscures the text. In Job 30:6, for example, this renders the expression ḥōrê ʿāpār meaningless. In Prov. 8:26, the relationship between Lady Wisdom and the mines, which may be key to her identification, is dismissed by ignoring the mining connotation of the expression rōš ʿaprôt tēbēl. In Job 22:4, the misinterpretation of ʿāpār creates confusion between the notion of worthlessness (of dust) and preciousness (of ore), which is central for understanding the metaphor. In Ezek. 26:12, one of the arguments in support of Ezekiel’s prediction of the demise of Tyre is dismissed by overlooking the ore meaning of ʿāpār. Ignorance of the ore context blurs the references to the serpent symbol in Gen. 3:14 and Isa. 65:25. It also transforms technical processes mentioned in the Bible, such as the roasting of ore (Isa. 34:9) and the oxidation of metal (Isa. 41:2), into obscure and meaningless wonders. The reference to these phenomena as ad hoc miracles not only overlooks the biblical message but also dismisses the idea that YHWH’s modus operandi may be much more natural than is generally assumed.

The examples provided here indicate that the use of ʿāpār as ore should not be restricted to the literal meaning of the word. Rather, metaphorical and even theological uses of ʿāpār as ore may be identified in the Bible. The disregard of these uses of ʿāpār obscures not only the meaning of some verses but also the theological importance of metallurgy and mineral treasures in ancient Israel.

ANTIQUITY OF THE ORE MEANING OF ʿĀPĀR

In Canaan, the practice of metallurgy is attested from the fifth millennium B.C.E.⁶⁸ and, in the absence of any other term explicitly designating ore in Hebrew or cognate languages,

67. A. Eben Shoshan, *The New Hebrew Dictionary* (Jerusalem: Kiryath Sepher, 1977), 1967.

68. See A. N. Shugar and C. J. Gohm, “Developmental Trends in Chalcolithic Copper Metallurgy: A Radiometric Perspective,” in *Culture, Chronology and the Chalcolithic: Theory and Transition*, ed. J. Lovell and Y. M.

ʿāpār may be the original ancient appellation for the relevant material in northwestern Semitic languages. This opinion is supported by examination of the Hebrew word ʿōperet, ‘lead’, a term that has parallels in cognate Semitic languages (e.g., Arabic ʿabār; Punic ʿpri)⁶⁹ and has sometimes been considered an Akkadian loanword (*abāru*)⁷⁰ and even a term of Sumerian origin.⁷¹ This wide distribution of closely related words that denote lead confirms that the expression belongs to the category of *Kulturwörter*, characterized by a high degree of geographic mobility⁷² and antiquity.

The ore meaning of ʿāpār, together with considerations about lead production in antiquity, may help us to clarify the origin of this term. Lead was widely regarded, in ancient Egypt, as the source from which other metals might be produced.⁷³ This means that lead was approached mainly as an ore rather than a finished metal. This singularity becomes clear once one remembers that, in antiquity, lead was largely intermediate in the production of silver.⁷⁴ For this purpose, its ore (argentiferous galena) was smelted first. Thereafter, silver was extracted from lead by cupellation, through a process of oxidization into litharge followed by decantation. Silver produced by cupellation has been recognized in the Levant from the first half of the fourth millennium B.C.E..⁷⁵ This is one of the first areas where significant quantities of silver have been identified, so that Byblos is considered one of the first sites of silver working and trade.⁷⁶ Accordingly, if lead was treated as a raw material from which silver could be produced, the simplest hypothesis would be that ʿōperet, a variant of ʿāpār, designates it as an ore. This conclusion suggests that the use of the word ʿāpār as ore is so ancient that it was not restricted to biblical Hebrew. Accordingly, a similar overlooked meaning is to be expected in other Semitic languages.

LOSS OF THE MEANING OF ʿĀPĀR AS ORE

As shown above, the use of ʿāpār as ore is evidenced in post-exilic texts such as Job, Proverbs, and Isaiah 41. If so, this dimension of meaning was still acknowledged in the Persian period. Nevertheless, the Septuagint systematically translates ʿāpār as dust and its

Rowan (Oxford: Oxbow, 2011), 133–48; M. Gosic and I. Gilead, “Casting the Sacred: Chalcolithic Metallurgy and Ritual in Southern Levant,” in *Defining the Sacred—Approach to the Archaeology of Religion in the Near East*, ed. N. Laneri (Oxford: Oxbow, 2015), 161–75.

69. HALOT 2: 863.

70. BDB 780; B. Landsberger, “Tin and Lead: The Adventure of Two Vocables,” *JNES* 24 (1965): 285–96; HALOT 2: 863. Such a loan, however, is not mentioned by P. V. Mankowski, *Akkadian Loanwords in Biblical Hebrew* (Winona Lake, IN: Eisenbrauns, 2000), in his list of Akkadian loanwords in biblical Hebrew.

71. NIDOTTE 3: 473–74.

72. Concerning the notion of *Kulturwörter* in the ancient Near East, see G. Rubio, “On the Alleged Pre-Sumerian Substratum,” *JCS* 51 (1999): 1–16; Mankowski, *Akkadian Loanwords*, 7; W. G. E. Watson, “Loanwords in Semitics,” *Aula Orientalis* 23 (2005): 191–98.

73. Aufrère, *L’univers minéral*, 453.

74. The identification of lead with silver production is so important in antiquity that scholars have assumed that lead metallurgy developed in close relation with the production and purification of silver. See R. J. Forbes, *Studies in Ancient Technology* (Leiden: Brill, 1966), 232.

75. This may be deduced from data reported by N. H. Gale and Z. A. Stos-Gale, “Cycladic Lead and Silver Metallurgy,” *Annual of the British School of Athens* 76 (1981): 169–224, revealing that silver artifacts from Pre-Dynastic Egypt (3600 B.C.E.) were already produced by cupellation, concluding that they had probably been imported from Gebal (Byblos).

76. K. Prag, “Silver in the Levant in the Fourth Millennium BC,” in *Archaeology in the Levant*, ed. P. R. S. Moorey and P. J. Parr (Warminster: Aris and Phillips, 1978), 36–45, who concludes that “the concentration of silver at Byblos in itself tends to suggest that the region may have played a central role in a silver trade in the Levant in the fourth millennium” (p. 41).

derivatives, even where this translation obscures the meaning of the text. Consequently, the Greek translators were apparently unaware of the ore meaning of 'āpār.

This is not the only metallurgical term that had lost its meaning by the Hellenistic period. The Septuagint, for example, translates the verb *qn'* as ζηλόω, a term denoting a family of sentiments from passionate emulation to jealousy and destructive zeal, even when it designates an essential attribute of YHWH. This interpretation of *qn'* transforms YHWH into a "jealous god."⁷⁷ However, *qn'* also has a metallurgical meaning in biblical Hebrew, evoking the process of furnace re-melting by which rusted copper is recycled. It seems that it is this meaning, and not jealousy, that *qn'* imparts as a divine attribute.⁷⁸ Similarly, the Greek translation of *kābōd* as δόξα ('dignity, glory, honor, praise') in the divine context is challenged by the identification of the *kābōd*-YHWH as the radiance that emanates from metal in a molten state.⁷⁹ These examples reveal that the Greek translators were unaware of the metallurgical dimension of the meaning of Hebrew terms denoting essential attributes of YHWH. Therefore, the misinterpretation of 'āpār in the Septuagint reflects a collective amnesia, in the third century B.C.E., of the Hebrew vocabulary relative to metallurgy and, with it, of the metallurgical dimension of ancient Yahwism.

77. *qn'* as an essential attribute of YHWH is translated as ζηλωτόν in Josh. 24:19 and as ζηλωτής in Exod. 34:14. The very same verb, ζηλόω, is used in the Greek version translating *qn'* as a human sentiment (e.g., in Gen. 26:14, 30:1, 37:11, and Num. 5:14).

78. This meaning is confirmed by the fact that this metallurgical dimension of meaning is closely related in the Bible to a divine mode of action that has been identified as furnace re-melting. See N. Amzallag, "Furnace Re-Melting as an Expression of YHWH's Holiness: Evidence from the Meaning of *qannā'* (קנן) in the Divine Context," *JBL* 134 (2015): 233–52.

79. N. Amzallag, "The Material Nature of the Radiance of YHWH and Its Theological Implications," *SJOT* 29 (2015): 80–96.