

Isaac went out ... to the field
(*Genesis 24:63*)

Studies in Archaeology and Ancient Cultures in Honor of Isaac Gilead

edited by

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Avi Gold is an Independent Scholar.

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Dan Malkinson received his PhD from the Hebrew University of Jerusalem in Ecology. Currently he is a researcher at the Department of Geography and Environmental Studies, and at the Golan Research Institute at the University of Haifa. His fields of research include human – wildlife interactions, the effects of humans on ecological processes and patterns in natural and human dominated environments. He applies spatial statistics and analysis tools to address these research questions.

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Ianir Milevski, PhD, is the Head of the Prehistoric Branch at the Israel Antiquities Authority. He also

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Steven A. Rosen is Canada Professor of Ancient Near Eastern Archaeology in the Department of Bible, Archaeology, and Ancient Near Eastern Studies at Ben-Gurion University. He received his doctorate from the University of Chicago and worked as a field archaeologist for the Negev Emergency Survey before moving to Ben-Gurion University full-time in 1988. He has excavated numerous sites in the Negev, ranging from the Paleolithic through recent Bedouin occupations, but focusing especially on the mobile pastoral societies of the region. His research has also

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Jacob Vardi is a researcher in the prehistoric branch of the Israel Antiquities Authority Research Division. He has directed prehistoric excavations in late prehistoric sites of the Neolithic period both in the Mediterranean regions of the Galilee and in the Judean mountains in

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Allan Witztum completed his doctorate at Cornell University in 1966 and had a research fellowship in the department of Botany at the Hebrew University for the next two years. In 1968 he joined what is now called the Ben-Gurion University of the Negev where he taught the first graduating class in Biology. He retired as a Professor Emeritus in 2007. His interests include plant anatomy, seed dispersal, plant biomechanics and economic botany (useful plants). He remains interested in the many plant genera he studied over the years including *Lemna*, *Spirodela*, *Cucumis*, *Blepharis*, *Ruellia*, *Centaurea* and *Typha*.

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Shamir Yona is Associate Professor in the Department of Bible, Archaeology and Ancient Near Eastern Studies at Ben-Gurion University of the Negev. He served for two terms as Chair of that department and two terms as Head of the Bible and Ancient Near Eastern Studies Division in that department. He is Co-chair with Elad Filler of the Judaica Section for Society of Biblical Literature International Meetings. He is a member of the board of directors of the New Israel Society for Biblical Research. Yona's publications focus on the poetics of Ancient Near Eastern literature; the wisdom literature of the Bible, the ancient Near East, and rabbinic literature; biblical prophecy and narrative; Ugaritic language and literature; and Semitic lexicography.

Preface and Acknowledgments

As we present this *Festschrift* to our colleague, Isaac (Itzik) Gilead on the occasion of his seventieth birthday, we are delighted to thank all of the people who enable us to bring this project to fruition.

Four editors—Professor Haim Goldfus, Professor Mayer I. Gruber, Professor Shamir Yona, and Dr. Peter Fabian—friends and colleagues of Isaac Gilead in the Department of Bible, Archaeology, and Ancient Near Eastern Studies worked tirelessly and unstintingly to complete this project.

We are especially grateful to Dr. David Davison and Dr. Rajka Makjanić, the Founders and Directors of Archaeopress and Dr. Dan Stott, of the marketing division of Archaeopress and the outstanding staff of Archaeopress for their dedicated work in publishing *Isaac Went Out to ... the Field*. We are delighted by the beautiful format of this *Festschrift*. We extend special thanks to Darko Jerko for his meticulous work in the formatting and the final editing of this beautiful book.

We express our thanks to the graphic artist, Ms. Sefi Sinay for her tireless efforts in formatting the Hebrew section of this book. We are most grateful to Dr. Eli Cohen Sasson, graphic artist in the Department of Bible, Archaeology and Ancient Near Eastern Studies at Ben-Gurion University for editing the illustrations and performing many other tasks, both great and small, wholeheartedly and pleasantly.

We thank the honoree, Professor Isaac Gilead, for providing both the photograph of the honoree, which appears within the volume, and the cover illustration, which depicts the staff and the students during the 2006 season of the excavations at Mitham C in Beer Sheva, which revealed levels beginning with the Chalcolithic Period and extending to the Byzantine Era.

Finally, we thank the forty authors, who include the honoree's teachers, colleagues, and students. These authors, who are associated with research institutions in Israel and around the world, kindly responded to the editors' invitation to contribute to this collection of articles. The honoree and the project have been blessed by their fascinating and original contributions to scholarship.

The reader will note that 24 of the articles are in English, and four of the articles are in Hebrew. The volume also includes English abstracts of the Hebrew articles.

The articles, which reflect the variety of subjects of interest to the honoree and his colleagues and friends, have not been arranged according to subjects. Articles in both the English section and the Hebrew section are arranged in the alphabetical order of the first-named author of each article.

The Editorial Board
Haim Goldfus, Mayer I. Gruber,
Shamir Yona, and Peter Fabian

פתח דבר לספר היובל ליצחק גלעד, ויצא יצחק לשוח בשדה

אנו מודים לד"ר אלי כהן ששון, גרפיקאי במחלקה למקרא, ארכיאולוגיה ומזרח קדום, על שסייע בעניינים שונים ברוחב לב ובמאור פנים. אנו מביעים תודה מיוחדת לדרכו ירקו עבור העימוד והעריכה הסופית של כל הספר.

ואחרונים חביבים, 47 המחברים, תלמידיו, עמיתיו ומוריו של בעל היובל, ממוסדות מחקר מרחבי הארץ ומחוצה לה, שניאותו לבקשת העורכים להרים תרומה לאוסף מאמרים זה – שתבוא עליהם הברכה.

הקורא ימצא שבספר ישנם מאמרים באנגלית ומאמרים בעברית. למאמרים בעברית צורפו תקצירים באנגלית כדי להקל על הקורא שאינו אמון על הלשון העברית.

המאמרים באסופה זו לא מוינו לפי נושאים אלא סודרו לפי סדר האלפבית של שמות המחברים.

המערכת:

חיים גולדפוס, מאיר גרובר, שמיר יונה, פטר פביאן

בהגישנו לקהל הקוראים את ספר היובל לעמיתנו יצחק גלעד במלאות לו 70 שנה, אנו שמחים להודות לכל אלה שסייעו לנו להוציאו לאור.

במלאכת הכנת הספר עמלו ארבעה עורכים (פרופסור חיים גולדפוס, פרופסור מאיר גרובר, פרופסור שמיר יונה וד"ר פטר פביאן), עמיתיו וחבריו של איציק מהמחלקה למקרא, ארכיאולוגיה והמזרח הקדום באוניברסיטת בן-גוריון בנגב, אשר לא חסכו ממרצם ומזמנם כדי להשלים את המלאכה.

ברכה מיוחדת מקדישים העורכים, לד"ר דוד דייוויסון ולד"ר ראיקה מאקיאניץ מיסדי ומנהלי הוצאת ארכיאופרס ולצוות המעולה שעמל לצדם, על עבודתם המסורה ועל שלא חסכו כל מאמץ כדי לשוות לספר צורה נאה. תודה מיוחדת לדן סטוט, האחראי על השיווק מטעם ארכיאופרס, על העזרה הנדיבה בקידום הספר שלפנינו.

תודה שלוחה למעצבת הגרפית, גברת ספי סיני, שעמלה רבות ולא חסכה כל מאמץ בעיצוב המאמרים של החלק העברי. עוד

Isaac Gilead: An Appreciation

Isaac (Itzik) Gilead was born in 1948 in Bamberg, Germany. He was the first born son of parents who came from the town of Milawa in Poland.

Itzik and his family came to Israel in 1949 and settled in Jerusalem. During Itzik's childhood the family lived in the Kerem Avraham neighborhood.

Itzik's parents enrolled him in the Tachkemoni School, which was an all-boys school, which belong to the national religious educational stream. The choice of this school did not reflect the family's ideology but only the proximity of this particular school to the family's home. When his schoolmates found out that Itzik was born in Germany, the children referred to this child of holocaust survivors as 'Nazi'.

Itzik loves all kinds of music. He is especially familiar with popular music both Israeli and international. However, he is especially fond of classical music. In fact, Itzik was gifted from an early age with an unusual Itzik is an avid reader, and his knowledge is both wide and deep and spans many disciplines. When he was a high school student he worked as a salesperson in a book store on Geulah Street in Jerusalem. With the money he earned he bought books and tickets to see motion pictures. Because of his great administrative skills the owners of the book store left him in charge of the store while they went on a two-week summer vacation.

In August 1966 Itzik was drafted into the Israel Defense Forces for a period of two years and two months. However, in the course of his initial period of service he was informed that his period of service had been extended, first for two and a half years and later to three years. He served for three years in the Engineering Corps. He spent a significant part of his military service in various courses including an officers training course. Itzik was honorably discharged from regular military service at the rank of lieutenant.

During the Yom Kippur War of 1973 Itzik was called up for reserve duty in the army engineers' unit that set up the pontoon bridge across the Suez Canal. It was across this bridge that most of the Israeli forces crossed the Suez Canal into Egypt.

In October 1970, a short while after Itzik was discharged from his active military service, he began to study archaeology, world history, and Jewish history at the Hebrew University of Jerusalem. He completed his B.A. in 1974, his M.A. in 1977, and his Ph.D. in 1982.

Itzik wrote his MA thesis *Layer I-15 in the Lower Palaeolithic site of 'Ubeidiya* and his PhD dissertation on *The Upper Palaeolithic in the Negev and Sinai: sites in Gebel Maghara, Kadesh Barnea and Nahal Zin* under the supervision of Prof. O. Bar-Yosef.

Isaac Gilead began his work in archaeology in 1972 as an assistant at the Institute of Archaeology at the Hebrew University. He gained field experience in the projects of 'Ubeidiya and surveys in Sinai. From 1977 he began teaching in the Department of Bible, Archaeology and Ancient Near Eastern Studies. In fact, from 1972 until his retirement 2016, Itzik taught only in that department. In 1982 he was appointed Lecturer, and he climbed the ladder to the rank of full professor, which he was granted in the year 2000.

Gilead's archaeological work concentrated in the Negev and Sinai, and includes excavations of sites belonging to many different periods, including Upper Palaeolithic sites at Kadesh Barnea and the Late Neolithic site of Tel Qatif in the Sinai, and a series of sites in the Negev, such as the Middle Palaeolithic site of Fara'h II, the Chalcolithic sites of Grar, the Nahal Sekher area, Nahal Besor, Abu-Matar, Beer Sheva, Nevatim, and Tel Sheva and the Early Bronze Age site of Tell 'Erani. He is the author of *Grar - a Chalcolithic site in the Northern Negev* (Beer Sheva: Ben-Gurion University Press, 1995), as well as dozens of articles, most of which deal with the Upper Palaeolithic and Chalcolithic periods. Since 1975, he is a teacher and a Ph.D. and MA advisor to a cohort of archaeologists, many of them now teaching and leading archaeological research, in Israel and around the world.

During his years at BGU, Isaac Gilead served the university in many administrative functions, including as the head of the Archaeological Division (1980/81; 1994/95; 1999/2000; 2002-2009), Chairman of the Department of Bible, Archaeology and Ancient Near Eastern Studies (1987-1991); Chairman of the University Library Committee (1994-2000); Member of the University's Centralizing Committee (1995-1998); Vice Dean of College Affairs (1997-2000); and Director of the Kreitman Foundation (2007-2009). As an archeologist, he held various offices in the Israel Prehistoric Society, the Israel Association of Archaeologists, the International Union of Prehistoric and Protohistoric Sciences (UISPP), the Archaeological Council of Israel, the Council for the Preservation of Built Heritage, and in the Israel Antiquities Authority, as a member of the Directory Council (1990-2001).

Isaac Gilead has mentored numerous graduate students, and he continues to mentor both M.A. and Ph.D. students. Many of his students teach in institutions of higher learning, and they are at the forefront of archaeological research in Israel and around the world. Two of his former graduate students are faculty members in the Department of Bible, Archaeology and

Ancient Near Eastern Studies at Ben-Gurion University of the Negev.

The editors and contributors to *Isaac Went out to the Field* wish Itzik many many more years of health and happiness and more fruitful research.

The Editors

The Religious Dimension of Copper Metallurgy in the Southern Levant

Nissim Amzallag

Introduction

The emergence of metallurgy was an important factor in the development of Ancient Near Eastern societies. Metal became the raw material for the production of tools, utilitarian implements, jewels, items of prestige, objects of art, and ritual artifacts. Its imperishability opened up new possibilities with respect to the concentration of wealth and power. The control of metal production and trade contributed to the emergence of the first important colonial movements in the Ancient World, the Uruk expansion (Algaze 1989: 581, 584; Butterlin 2003: 353-357; Avilova 2008: 88) and the Egyptian colonization of Nubia (Adams 1984), Sinai and Canaan (de Miroschedji 1998; Butterlin 2003: 156-158). The diffusion of metallurgy from the Ancient Near East created networks of metal production and trade in Europe (Brodie 1997: 305-309; Kristiansen and Larsson 2005: 43-51; Brück 2011: 387-388) and in Asia (Chernykh, 1992: 140-171; Kohl 2007: 29-48, 146-150), which propelled the circulation of knowledge, ideas and religious concepts all over Bronze Age societies. Despite these considerations, metallurgy is rarely approached as an important factor in the development of the Bronze Age religions, in comparison with the sun, atmospheric elements, fertility, crop production, water and the subterranean universe.

The situation differs when looking at the Ghassulian culture (ca. 4500-3900 BC), in which are attested the earliest stages of metallurgy in the Southern Levant. This culture is characterized by extensive production of prestige metal artifacts in regard to utilitarian items. Apparently, this bias was not accompanied by any improvement in social hierarchization, so that Rosen (2002: 16) concluded: 'there does not seem to be any obvious connection between elite control and copper production in this early period'. Prestige artifacts were not produced in the Southern Levant to be traded in distant countries. Given this, the simplest justification for their production is to assume a ritual function of prestige artifacts among the Ghassulians (Gilead 2002). This view is supported by the transformations in rituals and burial practices concomitant to the emergence of metallurgy in the Ghassulian culture (ca. 4500-3900 BC) (Gošić 2013 [esp. 281-284] and 2015). Metallurgy itself, beyond any utilitarian perspective of application, may have held religious importance. 'The symbolic role of artifacts, argued Gošić and Gilead (2015a: 169), suggests

that the technology [= metallurgy] was understood not only in practical terms, but also conceived in the realm of ideas, symbols and beliefs ... This is why we argue that the technology itself – the production process, from preparing the smelting to the finished artifact – was ritualized'.

This idea is not as surprising as it may appear at first sight. Native copper is not found in the Southern Levant. For this reason, local copper necessarily originates from the reduction of ore. This process was long and difficult at the end of the fifth millennium BC: it required mining, transporting the ores from desert regions (the Arabah valley), smelting, crushing the slag, and separating the copper from the mineral fraction by remelting the crushed slag (Shugar 2003). The development of such a process may hardly be justified on the basis of any practical application. After all, copper is rare relative to flint, and flint tools are easy to produce. Furthermore, flint is harder than the copper produced from the Arabah ore. Thus, no improvement of tools may emerge from the earliest stages of metal production. For these reasons, the simplest justification for the development of metallurgy in the Southern Levant is that metal production was a process that held significance in and of itself. Indeed, this is exactly what Mircea Eliade (1968: 76) already argued:

The discovery of metals and the progress of metallurgy radically modified the human mode of being in the universe. Not only did the manipulation of metals contribute considerably to man's conquest of the material world; it also changed his world of meaning. The metals opened for him a new mythological and religious universe.

Metallurgy is not an isolated case. Ceramic technology also seems to have emerged because of non-practical motivations (Rosen 2002). Even agriculture and herding apparently developed because of their resonance in the universe of beliefs rather than because of their advantage over gathering and hunting (Cauvin 2002: 245-247). In these latter instances, the ritual dimension that stimulated the earliest stages of development has practically disappeared in the course of time. It remains a crucial factor in the emergence of these techniques, at a stage in which the material perspectives and advantages may hardly justify their development. However, this archaic stage becomes progressively

(Amzallag, in press) subordinated to the extensive use of the technique and its standardization in other spheres of life.

In the Southern Levant, copper production substantially increased during the Early Bronze Age (Adams 2002). The metal produced was mainly exported to the Nile valley (together with metallurgy itself), a process which promoted social transformations and urbanization (Kempinski 1989: 165-166; Gophna and Milevski 2003; de Miroschedji 1998: 22-26). At the same time, the production of prestige artifacts using the complex technique of lost-wax casting ceased. Apparently, as with other techniques, the ritualized stage of metallurgy disappeared almost completely after this technique reached maturity, and after the production and trade of copper became intensified. Alternately, it may be proposed that the ritual dimension of metallurgy did not disappear. Rather, it simply became an esoteric and hidden fundament of the religions in the Southern Levant, and more generally, in the Ancient Near East. The aim of this paper is to investigate this premise.

The esoteric dimension of metallurgy in the Bronze Age

The religious importance of metallurgy is difficult to observe in the Southern Levant in the Bronze Age, mainly because the smelting god and companion deities involved in metallurgy are not identified. Consequently, we must examine the religious importance of metallurgy in neighboring cultures, such as Egypt, Mesopotamia and the Aegean.

Egypt

From the Old Kingdom period, the economy of precious metals was officially justified by the need to enrich the temples with gold and other precious metals (Aufrère 1991: 317-320). Apparently, this motivation might be interpreted as the wish to honor the gods with highly valued items and materials. However, this explanation does not account for the frequent addition of precious minerals, metals and metallic ores in the foundations of the Egyptian temples. As suggested by Aufrère (1991: 193), this practice promoted a symbolic homology between the sanctuaries and the mines from where metallic ores were extracted. By extension, this practice shows that the Egyptians approached metallurgy as the hidden foundation of the sanctuaries. The addition of precious metals to the foundations of temples represents, therefore, an esoteric layer underlying the official religion.

Further indications confirm the religious importance of metallurgy. Ptah, the patron of the Egyptian metalworkers, was approached as the master of the *ka*, the principle that vitalized the whole universe,

including the gods (Finnestad 1976: 102; Gordon and Gordon 1996). Furthermore, the Egyptians attributed a metallic nature to the flesh (gold) and bones (silver) of the deities (Aufrère 1991: 310-313). It is likely, therefore, that the deity producing the metals (= the smelting god) was approached by the Egyptians as the genuine creator and father of all the gods. His/her silenced identity suggests that this greatest god was not worshipped in the official cult, but rather through an esoteric worship.

Mesopotamia

The esoteric nature of metallurgy is revealed, in Mesopotamia, through the secret rituals inherent in the construction of furnaces and in metallurgical activity (Eliade 1977: 60-64). The impact of this cultural dimension of metallurgy on the official religion is reflected in the smith god's multiplicity of functions. Ea/Enki was considered the guardian of the secret knowledge, a feature justifying his status as god of witchcraft, exorcism, divination and magic powers (Lenzi 2008: 104-105; Schwemer 2015: 41-42; Galter 2015: 66-69). His homolog, Nusku, was similarly considered the guardian of the secret knowledge that he revealed to his devotees, the metalworkers and diviners (Lenzi 2008: 53, 350). Ningizzida, the patron deity of Gudea and of metalworking, was even '... a mystic underworld divinity, who protected the living by his magic spells, and could ward off death and heal disease for the benefit of those who worshipped him devoutly' (van Buren 1934: 89). The healing/vitalizing function, attributed to Ea/Enki and the parallel between smith-god deities (Jayne 1962: 118-121), confirms the essential, though silenced, importance of metallurgy in Mesopotamian religion.

Minoan Crete

In addition to urban temples, the Minoan religion is characterized by mountain peak sanctuaries with caves where the great god of Crete was worshipped. The hidden nature of this cult is reflected in the uncertainty surrounding the identity, name and attributes of this great deity. The restricted access to his peak sanctuaries, and the function of these in initiation rituals (Faure 1997: 297-300) are further indications of the esoteric dimension of this cult. The great mysterious god of Crete has been identified with Welkhanos (Bloedow 1991: 166; Capdeville 1995: 166-167). His metallurgical affinities are deduced from his homology with Vulcan, the Roman patron of metalworkers, and with Hephaestus, and the patron of the Cyprus smelters (see Capdeville 1995). This is confirmed by the central involvement of metalworkers in the rituals performed in these peak sanctuaries (Capdeville 1995: 187-191; Faure 1997: 170-173; Blakely 2006: 13), and by the bronze altar and the hoard of copper ritual artifacts (double axes) found in the peak sanctuary at Mount Iouktas (Bloedow 1991:

160-163). These data, together, support the assumption of an esoteric cult of metallurgical nature underlying the official Minoan religion.

Bronze Age Europe

As in the Southern Levant, the rise of metallurgy was in Europe closely related to deep transformations. 'The rise of chiefdoms, argued Kristansen and Larsson (2005: 52), often corresponds to an increased development of metallurgical skill and a whole new set of myths and gods linked to the sacred role of mining, smithing and ritual transformation'. The religious dimension of metallurgy is confirmed by the fact that many Bronze Age cultures from Europe are characterized by abundance of metallic prestige artifacts with cosmologic significance. These artifacts include axes, sun chariots, scepters, solar discs, crossed circles, and metallic representations of the firmament (e.g. Davidson 1969: 174; Brück 2011: 389-392; Ionescu 2012: 159; Scarano and Maggiulli 2014). The metallic nature of these ritual artifacts is interpreted as being involved in the representation of the Universe (Kristiansen and Larsson 2005: 294-303).

The metallurgical affinities of many burial practices, such as the furnace/burials homology, or cremation in areas of metallurgical activities (Dieterle 1987: 5; Goldhahn and Oestigaard 2007: 217-219), support the assumption that metal production *per se*, and not simply the metal as raw material of precious value, was of ritual importance in Bronze Age Europe. A comparative analysis of ancient mythologies confirms that, in the Bronze Age, metalworkers were regarded as masters of occult sciences, instructors and counselors to the political and religious elite (Kristiansen and Larsson 2005: 52-53). Here too, cultural metallurgy appears as the esoteric foundation underlying the official power.

These observations hint that the ritualized dimension of metallurgy constituted a fundamental feature of many Bronze Age religions (Budd and Taylor 1995; Kristiansen and Larsson 2005: 49-56; Avilova 2012). This means that it survived the first phase of intensification of production and trade of copper (mid-fourth millennium BC), and even the second phase inherent to the exploitation of copper sulphide ores (mid third millennium BC). The latter development considerably extended the use of copper for production of tools and other usual implements. For these reasons, it is likely that also in the Southern Levant, this ritualized dimension of copper metallurgy had also survived the collapse of the Ghassulian culture.

The African perspective

Similarities between metallurgical traditions from the ancient Near East and central Africa have been

acknowledged for a long time (Lucas 1948; Meyerowitz 1960; Rowlands 1971). Recent investigations have identified parallels between the social status of African blacksmiths and of Iron Age metalworkers from the Southern Levant (Qenites) and from the Aegean (Dactyls, Kuretes, Cyclops, Telchines, Kabeiros, Korybants) (McNutt 1990, 1999; Blakely 2006; Pfoh 2014). These parallels are especially interesting when we consider the central importance devoted to metallurgy in religions from traditional Africa. This reality is subsumed by Dominique Zahan (1979: 30) as follows:

The forge is often a place of worship, too. Its ground is sacred, and one enters barefoot in order not to communicate to the 'temple' the impurity of the shoe. No dispute is tolerated there, not because of the 'spirits' which *live* there but because it represents a celestial space [...] The artisan-priest's mediation with the invisible powers takes place in the enclosure of this workshop-temple. In addition, the forge offers a place of refuge for unfortunates seeking asylum. Connected to the notions of fecundity, life and liberty, it is the most typical sanctuary in African religion [...] If the comparison were not so extreme, we could almost say that the forge is the church of the African village.

The prominent status of the forge is confirmed by the multiplicity of the blacksmith's functions in Africa. Beyond his craft, this artisan was also the poet, musician, healer, judge, diviner, initiator, grave-digger, rain maker and well sinker of the community (de Maret 1980: 273; Boyer 1983: 49; Reid and McLean 1995: 153). Two elements suggest that this religious dimension is anchored in ancient traditions. The first is the frequent identification of the primordial smith as the civilizing hero, especially in Western Africa (Tegnaeus 1950: 16-109). The second is the higher symbolic dimension attached to the process of metal production (smelting) vis-à-vis the production of metal implements (metalworking) (de Maret 1980: 269; Boyer 1983: 46; Blakely 2006: 68). The parallels existing between African blacksmiths and metalworkers from the Southern Levant and the Aegean suggest, by extension, that a part of the ritual dimension of metallurgy was maintained at the Iron Age, both in the Southern Levant and in the Aegean.

Iron is by far the most common metal in Africa. Consequently, most of the rituals described by anthropologists belong to iron smelting and working. One of the most common features of African iron metallurgy is the female/womb symbolism of the furnace (the blowing apparatus being therefore identified with male genitals). Smelting, therefore, is likened to procreation (Eliade 1977: 48-53; de Maret 1980: 275; Reid and McLean 1995: 149; Blakely 2006: 99-

104; Gotic and Gilead 2015b: 32-34). In the Ancient Near East, however, this kind of symbolism is not attested either in iron metallurgy or in copper metallurgy that preceded it. Apparently, something fundamental differs in the way iron metallurgy was approached in the Ancient Near East and in traditional Africa. If this is so, it may be that the common features concerning the cultural dimension of metallurgy in Africa and in the Ancient Near East are rooted in copper rather than iron metallurgy traditions.

Copper ore is extremely scarce in Africa. As a result, the smelting and working of copper is very limited there. Nevertheless, copper, and especially *pure copper*, displays a special and far more prestigious status than iron in western Africa. It is globally approached as the 'holy material', and it is well researched (more so than gold) for its apotropaic, vitalizing and magical properties (Herbert 1973). This preferential status given to copper has a parallel in the Ancient Near East. In the Iron Age, copper was abundantly found in sanctuaries while iron was frequently absent. This bias is even attested in Assyria, the first empire whose military power was built on iron weapons (Pleiner and Bjorkman 1974). In Egypt, Israel and Greece, iron is explicitly excluded from the holy sphere (McNutt 1990: 147-148, 209-218; Blakely 2006: 200).

The preference for copper over iron is difficult to justify if metals were simply introduced in sanctuaries for their utilitarian properties, preciousness, or esthetic considerations. Rather, it suggests that in the Ancient Near East in general, and in the southern Levant in particular, the ritualized dimension of copper was preserved in the Iron Age. The reason why iron, the newly-smelt metal, was excluded from the holy sphere is never explicitly justified. We may deduce, here again, that the exclusion is based upon esoteric considerations relative to the ritual dimension of metallurgy.

This conclusion is supported, again, by examination of some of the African metallurgical traditions. For example, among the Kapsiki, a tribe living in the Chad basin, iron metallurgy is an 'open' activity performed in the village while copper working remains a secret activity occurring far from the village. In fact, it is closely related to initiation rituals and esoteric knowledge (van Beek, 1991: 293-298). A glimpse at Dogon traditions confirms this view. Here too, the smelting and working of iron, the utilitarian metal, are ritualized activities. However, copper (especially in a molten state = the divine 'water') and not iron, is positioned at the center of the cosmogony, mythic history and primeval events. This centrality of copper is especially reflected in the esoteric tradition of the Dogons, in which iron is only of minor importance (Griaule 1948). Copper metallurgy represents therefore the esoteric fundament, which organizes the universe

of beliefs of the Dogons, their way of thinking and even their social organization. Parallels identified between this esoteric metallurgical tradition and rituals from Antiquity (Lambert 1980) suggest that in the Iron Age a similar distinction existed between the ritual value of copper and of iron metallurgy.

Figures of the smelting god in the Iron Age

The apparent extension to the Iron Age of the esoteric dimension of copper metallurgy, together with the renewed production of copper in the southern Levant (Levy *et al.* 2012; Ben Yosef *et al.* 2012), invites us to look for expressions of the (hidden) smelting god in the first millennium BC.

Dionysus and the metallurgical mysteries

The mythology of Hephaestus, one of the figures of the Greek smith god during the first millennium BCE, encloses an esoteric dimension reflected by his nature as magician god, his infirmity (limping), and his nine-year subterranean initiation which lead to his integration into the Greek pantheon (Martin 2005: 17-20). The affinities between Hephaestus and Welkhanos (Capdeville 1995: 275-282) confirm the preservation in the Aegean of the esoteric metallurgical traditions identified at the Bronze Age. The importance of Lemnos and Naxos in the initiatory apprenticeship of Hephaestus suggests that these ancient esoteric traditions were especially well preserved in these islands.

The island of Naxos is also named *Dionysia* in reference to its patron-god, Dionysus. Furthermore, Dionysus is praised in the first Homeric hymn for being the god who brought Hephaestus into the Pantheon at the end of his initiation. These features designate Dionysus as the master of Hephaestus's skill and apprenticeship to the esoteric dimension of metallurgy. Dionysus is subsumed by Euripides (*The Cretans*, frag. 475) into the great god of Minoan Crete, a feature confirmed by further details of his mythology (Kerenyi 1976: 113). His identification with *Welkhanos* is strengthened by the parallel between the union of the Cretan princess Ariane (one of the appellations of the great Cretan goddess) with Dionysus and her close relation with *Welkhanos* (Capdeville 1995: 180). The association of Dionysus with metallurgical traditions is confirmed by his appellation as the 'father' of the Kabeiroi guild of metalworkers (Schachter 1986 vol. 1: 189-190, vol. 2: 93-95). At Thebes, members of this guild (also identified as the sons of Hephaestus) devoted to Dionysus an esoteric cult, which was distinct from the public worship of the deity (Schachter 1986 vol. 2: 96; Freyburger-Galland 2006: 104-109). Furthermore, the Kabeiroi were the guardians and promoters of religious mysteries practiced in Samothrace, Lemnos and Thebes from the early first millennium BCE (Blakely

2006: 13-40; Bremmer 2014: 46-47). Considered the most ancient mysteries in Greece (Pausinias 1.4.6), it is likely that these cults prolong, at least partly, the Bronze Age esoteric metallurgical traditions.

Though the nature of these Kabeiroi mysteries remained almost totally hidden, their content differed from the official religion in their emphasis on moral virtues and the systematic absence of figuration of deities. Kerinyi (1955: 35) characterizes these mysteries as

... a ritual action that is not bound up with a cult image of the godhead, as in the case of Kallynteria and Plynteria, but with the people who through action become in some special way the object and subject of the festival. The mystes (μύστης) suffers the mysteries, he becomes their object, but he also takes an active part in them.

According to the popularity of the Kabeiroi mysteries, especially celebrated at Samothrace, it seems that the esoteric metallurgical knowledge inherited from the Bronze Age metallurgical traditions became diffused by the Kabeiroi far beyond its initial context and audience.

These findings support the identification of Dionysus with the Bronze Age smelting god. Accordingly, the extensive popularity of Dionysus in the Mediterranean area, in the first millennium BCE, reflects the metamorphosis of this mysterious Bronze Age deity into a god openly worshipped by everyone, and at the same time disconnected from his metallurgical context.

The parallels between YHWH and Dionysus

Michael Astour was one of the first scholars to identify substantial parallels between the cult of YHWH in ancient Israel and that of Dionysus in Greece. He emphasized, for example, their similar ecstatic prophecy and its akin contagious nature, the affinities between the Dionysian *sparagmos* and the ritual related in 1 Sam 15:33, and the central importance of musical processions in their cult (Astour 1967: 176-194). Additional parallels are mentioned as follows:

- The extent to which the cult of Dionysus was associated with wine is seen in that the expansion of viticulture was considered to spread his cult (Stanislavsky 1975). Similarly, YHWH displays a privileged relationship with wine (Ex 29:40; Lev 23:13; Num 15:5-10; Isa 5:7; Jer 6:9, 12:10).
- In Greece, exudation of honey and milk from the Maenads' staff (*thyrsos*) was considered a theophany of Dionysus. This exudation was even interpreted as the call of Dionysus admonishing the Maenads to put aside their domestic activities in order to worship him (Euripides, *Bacchae*, vv. 141-144, 160-169 and 708-711). Also

in the Bible, Canaan, YHWH's dominion, is evoked as a land 'flowing with milk and honey.' This food is typically identified in Isa 7:14-15 as devoted to those initiated in the knowledge of YHWH.

- Choral singing was so intimately associated with the cult of Dionysus that it was called *Dionysia* (Jeanmaire 1991: 234). Participation in a choir was even considered to be the first stage in the revelation of the mysteries of the deity (Pailler 1995: 115). During performance, the choirmaster (*choregos*) was promoted to the rank of prophet of Dionysus and even regarded as his incarnation. A similar central importance of choral song characterizes the cult of YHWH. Exactly as in Greece, the choirmaster had the status of prophet of YHWH (1 Chr 25:2-5). Choral ritual performances revealed the secrets of the deity (Amzallag, 2015a), and even stimulated his theophany (1 Sam 10:5-10).
- Dionysus displayed a privileged relationship with serpents, and handling them apparently remained an essential component of his cult. In the Bible, YHWH's essential relationship with serpents is also seen by their presence around his throne (Isa 6:2-3) and their function as YHWH's guardians/emissaries (Gen 49:17; Num 21:6-9; Amos 9:3) (Amzallag 2014, 2016).
- The cult of Dionysus was subversive with respect to the official pantheon. It threatened the social order by inviting everyone to worship the deity, irrespective of age, gender, social status, and ethnic origin (Kraemer 1979; Dabdab-Trabulsi 1990: 86-110). Exactly the same subversive dimension is observed among the Israelites (Ps 148:11-12), whose theology is founded upon the liberation of a group of slaves from servitude, and their rejection of any divine authority other than YHWH.
- In Greece, the public worship of Dionysus was superimposed on a traditional esoteric cult (mysteries) anchored in Bronze Age traditions. Also, YHWH was formerly a hidden deity. This is revealed by evidence that YHWH's *genuine* name was hidden before the Exodus (Ex 3:13-14), and was even unknown to the patriarchs (Ex 6:3). In Isaiah 45, the superimposition of a public cult on the esoteric knowledge is revealed by the approach of YHWH as being both in time a hidden god (*ēl mīsttattēr*) (v. 15) and the deity who openly instructs Israel (v. 19).

These parallels, among others (see Amzallag 2011 for further details), reveal a homology between YHWH and Dionysus in their essential attributes, their requests from worshipers, their mode of action, and the similar superposition of an esoteric and a public cult. This invites us to examine to what extent the

esoteric knowledge of YHWH is anchored in Bronze Age metallurgical traditions from the Southern Levant.

YHWH and the Canaanite metalworkers

Egyptian documents from the 13th Century BC refer to a nomadic population living in the metallurgical area of the Arabah designated as *Shosu-YHW* or *Shosu-Penan* (Blenkinsopp 2008: 139-140; Levy 2009; Römer 2015: 313-314). This suggests that, at the end of the Bronze Age, YHWH was identified with populations living in the metallurgical area of the Arabah, who were probably involved in copper production. These people are designated as *Qenites* in the Bible. Their metallurgical activity is deduced from etymological considerations (*qny* = to forge), from the mention of their involvement in metalworking (Gen 4:22; 1 Chr 4:13-14), and from their affiliation with the Seirites mentioned in Genesis 36 (Abramsky 1953; Weinfeld 1988; McNutt 1990: 239-243; 1999; Blenkinsopp 2008; Mondriaan 2011). Members of these tribes also dwelled among the Israelites (Jer 35:11; 2 Kgs 10:15), Canaanites (Judg 4:17-18), Midianites (Ex 2:6, 3:1; 18:1) and Amalekites (1 Sam 15:6).

On the basis of the biblical elements informing us about their way of life, social position and ritual activity, Paula McNutt (1990: 39-42; 1999) observed that the Qenites display similarities with metalworkers from traditional Africa. Moreover, exactly as in traditional Africa, Cain, the eponymous ancestor of the tribe, is evoked in Genesis 4 as the *civilizing* hero par excellence (Sawyer 1986; McNutt 1999; Day 2009: 342).

A Qenite privileged relationship to YHWH is suggested by the deity's specific involvement in the birth of Cain (Gen 4:1), by the designation of Cain as being the *first* worshipper of YHWH (Gen 4:3), and by specific protection of Cain (and the Qenites in general) by YHWH (Gen 4:15) (Sawyer 1986). This prestigious status is acknowledged by the Israelites in 2 Kgs 10:15-16, Jer 35:14-19 and especially in Ex 18:12, where Jethro, the Qenite father-in-law of Moses, conducted the Yahwistic ceremony in the presence of Moses, Aaron and the elders of Israel (Weinfeld 1988; Blenkinsopp 2008: 134-135). Even in the mid-first millennium BCE, metalworkers were still considered heroes expected to liberate Israel in the name of YHWH (Zech 2:3-4).

Today, the prestigious status of the Qenites is generally denied because Cain is explicitly cursed for murdering Abel (Gen 4:11-13). However, we should keep in mind that exactly the same primeval crime characterizes the Kabeiroi. Rather than discrediting them, Kerenyi (1955: 45) stressed that this sin was an integrative part of their mysteries:

The Kabeiroi themselves, the prototypes of all subsequent initiates, had been criminals. A

tradition of Thessalonica, the large city on the coast opposite to Samothrace, tells of two Kabeiroi who killed a third and hid his head in a blood-red cloth. On Imbros, an island in the same region, the names of the Titans, the original criminals of Greek mythology, were listed in an invocation of the Kabeiroi.

Accordingly, the 'crime' of Cain is fully compatible with his closeness to YHWH. It should even be regarded as an indication of the esoteric nature of the metallurgical worship of YHWH performed by the Qenites, and of its ancientness, in regard to the Israelite theology.

Like the cult of Dionysus in Greece, the cult of YHWH in Israel seems to be anchored in metallurgical esoteric traditions in the Southern Levant. In both cases, this metallurgical layer remains unapparent in the public worship of the deity. However, unlike the rare Greek texts mentioning Dionysus, the Bible is an outstanding source of knowledge concerning YHWH. Consequently, we should examine to what extent the esoteric dimension of the cult of YHWH is reflected, at least partly, in the Israelite theology.

The metallurgical component of Yahwism in the Bible

YHWH is not officially acknowledged as the smelting god in the Bible, either in the Israelite theology or in the rare allusions to his pre-Israelite cult. Nevertheless, many elements belonging to the esoteric metallurgical background are visible in biblical sources.

The god of mining areas

The vision of YHWH dwelling within mountains of copper (Zech 6:1-5) confirms his origin in metallurgical areas. Furthermore, it reveals that the Israelites did not forget the metallurgical origins of their deity, even in the early post-exilic period. This origin is also reflected in the mention of YHWH coming from the south (Hab 3:3), and more specifically from the mountains of Seir (Judg 5:4; Deut 33:2), of Paran (Deut 33:2; Hab 3:3) and of Sinai (Deut 3:3; Judg 5:5). An area of copper mining and production can be associated to each of these locations: Punon/Feinan (near Seir), Wadi Abu Kusheiba (located near the outfall of Nahal Paran), and Serabit el Khadim (in the mountains of Sinai). It could be, furthermore, that the origin of YHWH from the south (Teman) evokes the southeast mining area of the Arabah, the Timna Mountains.

The importance of this origin of YHWH in metallurgical areas is reflected in the description of the country given to the Israelites as '... a land whose stones are iron, and out of whose hills you may dig copper' (Deut 8:9). Considering the absence of iron and copper ores in the

land of Israel, it seems that this claim primarily reflects the theological request to transform the 'promised Land' into a giant metallurgical area in order to justify YHWH's presence among the Israelites (Amzallag 2013:163-164).

The serpent attack against the Israelites, related in Number 21 occurred between Mount Hor (v. 4) and Oboth (v. 10), so that its precise location (although concealed by the biblical author) was probably Punon, the area positioned between these two stations (Num 33: 41-43). An examination of the text of Numbers 21 reveals that this attack followed upon the Israelite penetration into the forbidden area of copper mining and production guarded by serpents in YHWH's name (this was, in Antiquity, the traditional mythic function of the serpents, see Grottanelli 1987: 433-434). This means that the Israelites kept the memory not only of the link between YHWH and copper production, but also of the esoteric nature of this activity, whose access was denied even to them (Amzallag 2015b).

Demiurgic metallurgy

The term *rāqî'a* designates the firmament as a hammered (*√rq'*) piece of metal (Brown 1968: 37-42; van Wolde 2009: 9). This metallic nature is supported by the mention of its brightness (Dan 12:3) and its likeness with a bronze mirror (Job 37:18). Even more, YHWH is explicitly praised for having stretched (*√nty*) the heavens (Isa 42:5; 44:24; 45:12; 51:13; Job 9:8; Ps 104:2), so that the psalmist sings that 'the firmament claims his handiwork' (Ps 19:2). In Egypt, too, the firmament is identified as a giant plate of copper hammered by Ptah, the smith-god (Budge 1904: 502, 511). Similarly, in Ancient Greece, the term *chalkeon uranon* (= copper sky) (Iliad 5:503-504, 17:424-425; Odyssey 3:1-2) suggests that the dome of the heavens was represented as a giant piece of copper.

In the Bible, the earth is also plated by hammering (Isa 42:5; 44:24; Ps 136:6), a feature indicating that, as a whole, YHWH's demiurgic activity was envisioned as a metallurgical process. This representation of creation is not trivial. It is justified only if at least in the past, an essential link existed between YHWH and metallurgy.

The celestial furnace

A furnace is mentioned in close relation to YHWH in Isa 65:5 ('these are a smoke in my nose, a fire that burn all the day') and in Ps 18:9 ('Smoke arose up in His nostrils, and fire out of His mouth did devour; coals flamed forth from Him'). Its detailed description is reported in Ezekiel's opening vision. This text (Ezekiel 1) relates the existence, upon the firmament, of a celestial throne positioned in the midst of an intense bright fire (v. 4) with burning coals (vv. 13-14). The metallurgical nature

of this celestial fire is confirmed by the radiant material among the coals designated as *hašmal* (vv. 4, 27). This *hapax* is known in cognate languages as designating both *amber* and *electrum*, an alloy of silver and gold of a pale yellow color. In Ezekiel 1, *hašmal* is evoked within glowing coals/consuming fire, as something intensely radiant. This prevents its identification both as amber (which burns in fire) and as solid metal (low radiance). Rather, it seems that here *hašmal* designates metal in a molten state through the yellow pale color of its radiance (Driver 1951). These elements support the identification of the celestial throne of YHWH as a giant furnace (Amzallag 2013:172-175).

Ezekiel is not the only Israelite envisioning this fiery celestial reality. Before him, the elders of Israel had already contemplated the 'celestial throne' (Ex 24:10). However, nothing about their experience is detailed in the Bible, except the intense radiance emanating from it (a detail probably introduced to confirm that they truly contemplated the celestial domain). This silence is not fortuitous. The specification that these elders should have died because of their contemplation of the celestial domain (Ex 24:11) indicates that access to this knowledge was denied to people who were unauthorized or improperly prepared. We may assume, by extension, that divulging this celestial reality was strictly forbidden. This deduction is corroborated by an Assyrian text from the early first millennium BCE (KAR 307, 30-38). This source discloses few enigmatic indications concerning the celestial universe (once again, of fiery metallurgical nature), and it closes with the following formula: 'Secret of the great gods: let the initiate reveal it to the initiate, but do not let the uninitiated see it' (Livingstone 1986: 82-83; Horowitz 1998: 3-15).

The nature of Ezekiel's first vision reveals that people among the Israelites were well-informed regarding the mysteries of metallurgy and their link to YHWH. Furthermore, the detailed description of the celestial throne in Ezekiel 1 indicates that a part of this esoteric metallurgical knowledge, which was jealously kept secret in other cultures, became unveiled by some biblical authors.

The volcanic theophany

In Ex 19:16-19, the covenant at Sinai is accompanied by intense fire, smoke and violent quakes shaking the entire mountain. This description stimulated geologists and biblical scholars to identify the Sinai theophany with a volcanic eruption (e.g. Bentor 1990: 336; Humphreys 2004:84-87; Dunn 2014: 388-397). This event is not unique in the Bible, volcanism being one of the privileged markers of divine presence and mode of action (e.g. Pss 46:7; 97:5; 104:32; 114:8; 144:5). This is why volcanism should be regarded not as a

metaphor for divine powers, but rather as an essential feature characterizing YHWH's theophany (Koenig 1966; Dunn 2014; Amzallag 2014). Within a geological context (Egypt, Canaan, Sinai peninsula) devoid of recent volcanic activity, the association between YHWH and volcanism probably held theological rather than historical significance.

The meaning of YHWH's essential relation with volcanism becomes clear once it is noted that in Antiquity volcanic eruptions evoked the theophany of gods patronizing metalworking (such as Vulcan and Hephaestus). This feature reflects the evidence that metallurgy was the only human activity producing flowing molten silicates (slag) very similar to lava emanating from a volcano. Here, the association of the most important event of the Israelite theological history with volcanism reveals that the Israelites acknowledged the former identity of YHWH as the smelting god, and even integrated this metallurgical background into their own religious experience.

The divine radiance

The term *kābôd*, in the Bible is generally understood as evoking YHWH's splendor, glory and majesty. Scholars have also noticed that, beyond this meaning, *kābôd*-YHWH is apparently a technical term designating a heavy liquid with fiery and radiant properties, such as in Ex 24:17; Deut 4:36; 5:19-20; Isa 60:1-2 (Collins 1997: 580-584; Kutsko 2000: 80). The metallurgical dimension of this divine radiance is hinted in the text of Ex 20:22-23; Isa 42:8; 48:11; Ps 106:19-20. It is confirmed in Ezek 1:27-28, where *kābôd*-YHWH is closely associated to the radiations emanating from something identified as *hašmal*. These observations, together with others linking metallurgy and other expressions of *kābôd*-YHWH (e.g. solar radiance and volcanism) suggest that *kābôd*-YHWH basically designates the yellow-pale radiance of metal in its molten state (Amzallag 2015c).

Furnace re-melting

In the Bible, *qn'* is an essential attribute of YHWH (Ex 34:14) which is even equated to his whole holiness (Jos 24:19). An examination of the mention of this divine attribute reveals that, instead of designating jealousy, it refers to a fiery mode of action closely related to volcanism (e.g. Deut 32:21-22; Zeph 1:18; 3:8; Nah 1:2-5). Though this divine intervention is strongly destructive, it is frequently mentioned as a process leading to the emergence of an improved, renewed reality (e.g. Zeph 3:8-9; Isa 37:22-32; Zech 7:11-8:6). This means that *qn'* refers to the regenerating/rejuvenating dimension of a fiery destructive mode of divine action. These considerations, together with the designation of *rust* as *qn'* in ancient Hebrew (see Driver 1934: 276), suggest that the divine *qn'* refers to the process of *furnace re-*

melting, by which the copper of corroded metallic artifacts becomes recycled without any loss of matter (Amzallag 2015d).

It is noteworthy that furnace re-melting remained an essential attribute of YHWH in the Bible. Furthermore, the visions, in late prophecies (e.g. Isa 8:19-9:6; 37:22-32; Zeph 3:8-9; Zech 7:11-8:6) of a giant destructive event of volcanic nature anticipating a renewed improved universe reveals that at the post-exilic period, furnace re-melting still constituted the fundamental element of the Israelite eschatology.

YHWH's emissary

YHWH's emissary, the divine being speaking and intervening in his name, is figured in Mal 3:1-3 as a metalworker. This metallurgical dimension is confirmed by his affinities with Koshar, the Ugaritic smith god, and with two Iron Age divine beings closely related to the latter: Melqart and Herakles.

- Koshar and YHWH's emissary are mentioned in practically the same way: both are messengers of the supreme deity sent to visit the childless hero (Danel, Abraham). A similar meal is prepared by the hero for the divine visitor. After the meal, both Koshar and YHWH's emissary foretell in a very similar fashion the birth of a new and blessed lineage, Aqhat (KTU 1.17 v 14-20) and Isaac (Genesis 18). This parallel suggests that the biblical story is inspired by the Ugaritic tale (Xella 1978) or its equivalent from south Canaan. If so, YHWH's emissary should be considered the Israelite substitute for the Ugaritic smith god.
- The god of Tyre, Melqart, patronized metal working and trade, the main source of wealth of the Tyrians (Amzallag 2012: 132-135). He should be considered the Tyrian version of Koshar. According to Nonnus (*Dionysiaca* XL, 471-492), Melqart's theophany is symbolized by a fire burning at the base of a sacred tree in the presence of a serpent. This is exactly the same theophany which is related in Ex 3:2 when the emissary of YHWH spoke for the first time to Moses.
- Herakles, a deity who displays many parallels with Melqart (Brundage 1958), ultimately saved Phrixos from being sacrificed by his father Athamas who intended to fulfill a divine instruction. Exactly the same story is related by YHWH's emissary who intervenes to save Isaac from being sacrificed by Abraham, who in turn was fulfilling a divine request (Genesis 22). In both cases, the story is concluded by substituting, as a sacrifice, an animal incidentally present, and by the perpetual blessing of the lineage of the hero. These elements suggest that the two

stories have the same mythological background (Wajdenbaum 2010).

The affinities between Koshar, Melqart and Herakles, and their common interrelations with YHWH's emissary suggests that the latter is the Israelite version of the smith god acknowledged in neighboring cultures, whose origin is anchored in Bronze Age traditions (Amzallag 2012). These tales also reveals that in the Bronze Age the smith god represented the emissary, in the official religion, of the smelting god of esoteric nature.

All these considerations, when gathered, leave little doubt concerning the essential dimension of metallurgy in ancient Yahwism. Furthermore, the absence of iron in YHWH's sanctuary (where gold, silver and copper are abundant), together with the attributes and modes of action inspired by copper metallurgy, strongly suggest that the metallurgical background of the god of Israel is anchored in Bronze Age traditions. This enables us to identify YHWH, in his pre-Israelite worship, as the South Levant deity patronizing copper smelting, whose origin is rooted in Bronze Age traditions, and probably even before. Furthermore, the central importance devoted to the metallurgical theophany, mode of action and attributes of YHWH reveals that the Israelites did not consider these features as vestigial, but rather as a central, though hidden, background founding their theology.

Conclusion

The cultural dimension of metallurgy, which was probably of outstanding importance in the Southern Levant from the beginning, apparently did not disappear following the increase in production and trade of metals and utilitarian artifacts. Rather, it became the esoteric foundation on which religions emerged and further developed. The present study reveals similarities between the esoteric dimension of metallurgy in the Bronze Age, its further developments in the Iron Age and even its affinities with metallurgical traditions from traditional Africa. These observations confirm the antiquity of the metallurgical esoteric traditions, and their probable diffusion from a specific homeland.

The Southern Levant is the only area where metallurgy emerged independently from the exploitation of sources of native copper. It is also the only region where metallurgy was apparently practiced in a furnace rather than a crucible from its very beginning (Amzallag 2009). Accordingly, metallurgy, in the Southern Levant, was not simply an extension of the work and exploitation of an already existing material. It was a process that enabled the production of a new material. Furthermore, copper ore from the Arabah does not show affinities

with the metal produced in the furnace, either in color, density or mechanical properties. This means that the production of copper from ore, in the Southern Levant, was probably approached from its origin as a demiurgic activity. This may easily transform the god patronizing smelting into the master of demiurgic powers, that is, the supreme deity. The reiteration of this demiurgic operation, at each smelting process, may even justify why the ritualized dimension of smelting did not disappear after the collapse of the Ghassulian culture. Furnace metallurgy, once developed in the Southern Levant, propagated rapidly in the Ancient Near East (Amzallag 2009). Accordingly, it is likely that the ritual dimension of furnace metallurgy diffused together with this practical knowledge, to become also a fundament for other Ancient Near Eastern religions.

Though this esoteric knowledge remains enigmatic today, the present study suggests that it is possible to characterize its nature and general significance through a cross-cultural investigation that combines the following approaches: (i) examination of the Chalcolithic and Bronze Age rituals and the prestige metallic artifacts from the Southern Levant; (ii) analysis of the literary sources concerning rituals and mythologies relative to the smith gods from Bronze Age societies; (iii) investigations of the religious mysteries practiced during the Iron Age in the Ancient Near East; (iv) identification of the official cults of the smelting god during the Iron Age, both in Canaan and in neighbor cultures; (v) integration of testimonies regarding the esoteric layer of religions from traditional Africa.

The present paper especially stresses the importance of re-examining the Bronze Age literary sources relative to the smith god and his hidden patron-deity. It also indicates that both the transformation of esoteric Bronze Age traditions into a public cult and the spread of some mystery cults had an outstanding influence on the development and evolution of Iron Age societies, and even, on the emergence of monotheism. It also reveals that the Bible may be an exceptional source of information concerning the nature of the esoteric metallurgical knowledge.

Historians generally express reservations in approaching the Bible as a reliable source of information. The reason for this is the apologetic dimension that characterizes many of the biblical sources, which were conceived to defend one specific theology and cult over others. Some considerations minimize these reservations in the present case. The metallurgical background of ancient Yahwism, though omnipresent in the Bible, is never emphasized or even openly mentioned. This means that this reality does not belong to the apologetic layer of the biblical discourse. This is not difficult to understand why. The Israelite theology is elaborated on the basis of the transfer to a new 'people of YHWH' (= the Israelites)

of the religious authority previously attached to the Canaanite metalworkers (= the Qenites / Seirites), the traditional guardians of the esoteric knowledge. This transfer of authority is evoked in Genesis 27 in an unfavorable way (through the deceiving stratagem used by Jacob/Israel to obtain the primogeniture rights initially granted to Esau/Edom). This probably betrays deep Israelite self-critical problems of legitimacy. The demonization of Edom in late biblical sources reveals that this struggle for Yahwistic authority was still acute at the end of the First Temple period (Amzallag 2015e: 53-65). In such a context, the mention of the metallurgical background of YHWH may have hardly been introduced by the Israelites for apologetic purposes, because it strengthened the legacy of the Edomites/Qenites (= the Canaanite metalworkers) religious authority at the expense of the Israelite one. This is why the metallurgical dimension expressed in the Bible should be globally approached not only as a key element for understanding the emergence of monotheism, but also as a reliable source informing us about the esoteric metallurgical beliefs founding the South Levant religions in the Bronze Age.

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