

EDEN REVISITED: GEOGRAPHY, NUMERICS
AND OTHER TALES
(REVISED VERSION)

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This essay is dedicated:

- *To my aunt Amelia Rizzo, whose tales on the Garden in my childhood inspired then unanswered questions, whose answer may now lie in these pages*
- *To the people of Afghanistan, Land of the Rivers from the Mountain of the Garden of Eden. May the people of Afghanistan have a future of peace, harmony and tolerance, within themselves and with the world.*

Abstract

Eden, the place where Adam and Eve were created, is briefly described in Genesis, first book of the Bible, and more extensively in other ancient Mesopotamian sources. Here we consider the geographical elements identifying Eden that are found in Genesis. We show the existence of a specific location in Asia that fully satisfies such geographical data. In the context of our geographical identification we propose new interpretations of extremely ancient symbols and paradigms of human culture, including the swastika and the names of the cardinal points in Germanic related languages.

Preface

“ The location of the Garden of Eden has intrigued the inquisitive and the religious ever since the Bible was first read. Today, few scholars would be brave or reckless enough to suggest that the land of Eden actually existed – let alone that it was from this place that civilized humankind first emerged. This approach speaks volumes for the attitudes of modern scholarship, where caution and outright scepticism now seem to prevail.....

... there is so much nervousness about proposing new ideas within academia these days that most historians tend to shy of using their imagination and, as a result, the interested reader is left only with the products of the imagination of previous generations. Those within academia who dare to venture new ideas are often ridiculed by their colleagues precisely because they are using their intuition and imagination in an attempt to answer vexing historical questions “.

The above are quotations from Rohl [11]. This paper is an attempt from someone who belongs to academia, albeit not the humanistic but the scientific field, to answer the question “where?” about the Garden of Eden. Our answer is the product of background interests in geography and ancient history that the author has developed since his young years, close to fifty years now. The answer that we propose is an apparently new identification of the “where”, that fits the geographical data in Genesis generally considered just as “embellishments”.

1. Introduction

The Bible (by this here we mean the books called by Christians the “Old Testament”), sacred book for Hebrews, Christians and Muslims, contains a large amount of information of historical, geographical and other secular nature. The Bible has come to our times via different channels of transmission, related to the survival of the sacred texts among geographically separated groups of Hebrews in different parts of the world. Most famous is the so called *received* version, that was preserved by the tribe of Judah (and Benjamin), that were deported to Mesopotamia by Nebuchadnezzar in 587 BC; this text is considered to have been put in the present form essentially by the great priest Esdra, when the two tribes settled in Palestine after Cyrus the Great gave them the right to leave the Babylonian territory. The original text collected by Esdra was written using only consonants. The vowels were added about a thousand years later, when Islam was spreading, by the so called rabbinical school of the Masoretes, thereby creating what is known as the *Jerusalem Bible* (the standard version of the *Jerusalem Bible* is the one provided by the Fominican School in Jerusalem). Making from an the old text new copies was a job carried out with extreme attention, so much that mistakes could not even be corrected, the whole scroll had to be copied anew. The impressive accuracy in the transmission of Biblical texts was confirmed by the discovery of several books of the Bible in the caves of Qumram. For instance among the first four scrolls found and bought in 1947 by the Syrian orthodox bishop Yeshue Samuel, there was an integral copy of the Book of Isaiah, in 54 columns of 30 lines each. The oldest existing manuscript of Isaiah at that time was part of the so called Leningrad Bible, of the 9th century AD, written about 1000 years later. The two texts were virtually consonantically identical. It must be observed that when the Masoretes vocalized the consonantal Bible, Hebrew had ceased to be a spoken language since about a millennium, hence errors in the vocalization are expected to be present. Professor Kamal Salibi [1,2,3] is the author of the thesis, mainly argued on geographical grounds, that the *Land of honey and milk*, where Abraham settled after leaving Ur of the Chaldaes (circa 1900-1800 BC) and where Moses returned after the Exodus (that with Velikovsky [4], Rohl [5], James [6], Bimson [7] and Patten [8] we set at 1447 BC), was not Palestine but the region between Mecca and Yemen now called Asir. In this context and by exploiting the archaic form of Arabic still spoken in Asir he has argued that some Masoretic vocalizations are quite erroneous.

It may also be suspected that the original correct way of vocalising and hence also of interpreting the ancient consonantal text was, as far as the tribes of Benjamin and Judah are concerned, affected by the murder of the priests ordered by Manasseh in the time of his long kingdom, before the deportation to Mesopotamia, when for a while he reverted to polytheism (according to Hancock [9] a small group of priests survived, fleeing to the island of Elephantina in Egypt and carrying with them the Ark of the Covenant, that later ended up in Ethiopia). This loss of continuity in the priesthood of the tribes of Judah and Benjamin, those that settled in Palestine after Cyrus the Great gave them freedom, and who later originated the diaspora in the Roman world, may explain the many problems faced by the first translators of the Bible into Greek (the *Septuaginta* version of circa 250 BC; traditionally 72 translators worked for 72 days and their translations turned out to be identical). It may also explain to some extent the differences between the *Septuaginta* and other versions, e.g. the Latin *Vulgata* (due to Jerome, beginning of 5th century AD; Jerome embarked in learning Hebrew at advanced age and had substantial help by a friend who was a rabbi) and the *Jerusalem Bible*, based upon rabbinite tradition.

There are other versions of the Bible from traditions possibly predating the canonical version of Esdra, i.e. possibly stemming from independent traditions associated with the Ten Tribes of Israel, who were deported in 722 BC by the Assyrian king Sargon II to a land that we later will identify with a part of Afghanistan (notice that, in the context of Salibi's proposal that the land of the Ten Tribes was in Asir, some of the people might have escaped beyond the sea, originating therefore a diaspora on a much wider scale than that within the Roman empire). Such versions include the *Samaritan Bible* (consisting of only the five books of the Pentateuch, i.e. the Torah; this Bible is written in the ancient Samaritan language and only recently a version in Hebrew has been made; a version into English is currently under production in Vancouver), the Ethiopian and the Armenian versions. Differences between the various traditions are relatively minor, generally speaking, albeit they can be substantial in a few occasions (for instance the ten prediluvian generations cover 2642 years according to the Septuaginta, 1656 according to the Jerusalem Bible, 2262 according to Josephus, 2060 following St Ephrem of Syria..., see Baldacci [47]). Also we find in these alternative traditions some books accepted as canonical, e.g. the Book of Enoch, that are not part of the Septuaginta.

Despite the above considerations on the correct reading of the Biblical texts, it is almost astonishing to us that the Genesis text, usually attributed to Moses, thus having an age of circa 3500 years, and most probably based on much older traditions (up to 7500 years ago, if, following several clues in ancient texts we would date Adam at circa 5500 BC), contains geographical names that are still identifiable and in some cases have survived with little or no change until almost the present day.

The Bible is a text providing information in different fields. In the western world its veracity was unchallenged for a very long time even in the literal sense of the available translations, which, as we have observed, are subject to at least the problem of the correct vocalization. During illuminism many statements in the Bible began to be rejected (including for instance those about "stones falling from the sky", a phenomenon that modern astronomers recognized only in the second half of the 19th century). Nowadays even among scholars of Christian churches it is rather common to attribute to the Bible authority only in the moral or theological field, while the facts collected there are considered to be essentially of symbolic value, see for instance the following statement by Borgonovo [10]: *The principle on which the first section of Genesis (Chapts. 1-11) is based has quite special features. It is not based upon a scientific foundation but is a "sapiential" reflection using mythical language.The principal consequence for the interpretation of this text is that we are unable to pass directly from the Biblical tale to a historical validation (e.g. a unique origin of man, the great deluge, Noah's ark....). In Genesis we look essentially to a mythical-symbolic formulation of the events lived by Israel.*

Other scholars, however, see for instance Velikovsky [4] and Rohl [5, 11], have given great value to the Bible as a historical text, claiming that many apparent incongruities with other histories stem from an erroneous chronology adopted for Egyptian and related histories, anchored to a wrongly fixed Sothic year (see also Clube and Napier [50] for an astronomers opinion on the wrong dating of the Sothic year).

In this essay we will leave aside the chronological questions, dealing with the specific problem of the location of Eden. The Torah (the Pentateuch) contains about 2000 toponima, most of which should refer to Palestine or nearby lands. Most of these toponima cannot be identified where they are expected or, if they are, they often appear associated with features in loco that are at variance with the Biblical text. This is the geographical conundrum that has led Salibi to identify the Land of Honey and Milk with Asir, on the high plateau of south-western Arabia, where most toponima can be identified and where

they appear in the correct geographical setting (incidentally, a study by us, [13], of the distribution of the Hebrews around 1170 AD from a book of Binyamin of Tudela, confirms Salibi's thesis).

The geographical information about Eden is limited, but specific and precise. We provide it in the next section. Then we discuss some previous identifications of Eden, in particular by Rohl [11] and by Salibi [1]. We observe that such identifications have a weak agreement with the Genesis text. Next we give our identification, that, as far as we are aware (but we have touched only the tip of the immense literature in this field) is new. Finally, we will look at some natural consequences in the interpretation of ancient symbols and traditions. Also, tantalizing hints will appear on the background of Exodus.

2. The geographical data on Eden in Genesis

Here we give the geographical information on Eden in four different translations.

From Biblia Sacra, Justa Vulgatam Clementinam (denuo editerunt complures Scripturae Sacrae Professores Facultatis Theologicae Parisiensis....Typis Societatis S. Joannis Evang., Parisiis, 1927)

Genesis II, 8-14

Plantaverat autem Dominus Deus paradisum voluptatis a principio; in quo posuit hominem quem formaverit. Produxitque Dominus Deus de humo omne lignum pulchrum visu et ad vescendum suave; lignum etiam vitae in medio paradisi; lignumque scientiae beni et mali. Et fluvius egrediebatur de loco voluptatis ad irrigandum paradisum, qui inde dividitur in quatuor capita. Nomen uni Phison; ipse est qui circuit omnem terram Hevilath, ubi nascitur aurum; et aurum terrae illius optimum est; ibi invenitur bdellium, et lapis onychinus. Et nomen fluvii secundi Gehon; ipse est qui circuit omnem terram Aethiopiae. Nomen vero fluminis tertii, Tygris; ipse vadit contra Assyrios. Fluvius autem quartus, ipse est Euphrates....

IV, 15-16

Posuitque Dominus Cain signum, ut non intericerent eum omnes qui invenissent eum. Egressusque Cain a facie Domini, habitavit profugus in terra ad orientalem plagam Eden.

From The Art Bible, London, George Newnes, 1896

II, 8-14

And the Lord God planted a garden eastward in Eden; and there he put the man whom he had formed. And out of the ground made the Lord God to grow every tree that is pleasant to the sight and good for food; the tree of life also in the midst of the garden, and the tree of

knowledge of good and evil. And a river went out of Eden to water the garden; and from thence it was parted, and became into four heads. The name of the first is Pison; that is it which compasseth the whole land of Havilah, where there is gold. And the gold of that land is good; there is bdellium and the onyx stone. And the name of the second river is Gihon; the same is it that compasseth the whole land of Ethiopia.

And the name of the third river is Hiddekel: that is it which goes east of Assyria. And the fourth river is the Euphrates.

IV, 15-16

... and the Lord set a mark upon Cain, lest any finding him should kill him. And Cain went out of the presence of the Lord, and dwelt in the land of Nod, on the east of Eden.

The above edition at page 5 has a map of the *Euphrates or Eden district*, where “the most probable Region of the Paradise” is identified with the central part of the Mesopotamian plain, the Hiddekel is identified with the Tigris, the Euphrates is also called *The great river*, the Pison and Gihon are identified with two distinct outlets of the Tigris and Euphrates, Cush or Ethiopia is collocated within present Khuzestan, while Havilah is identified with the desert land south of the Euphrates.

From *La Sacra Bibbia*, Edizione Ufficiale della CEI, 1974 (San Paolo, 1985)

II, 8-14

Poi il Signore Dio piantò un giardino in Eden, a oriente, e vi collocò l' uomo che aveva plasmato. Il Signore Dio fece germogliare dal suolo ogni sorta di alberi graditi alla vista e buoni da mangiare, tra cui l' albero della vita in mezzo al giardino e l' albero della conoscenza del bene e del male.

Un fiume usciva da Eden per irrigare il giardino, poi di lì si divideva e formava quattro corsi. Il primo fiume si chiamava Pison; esso scorre intorno a tutto il paese di Avila dove c'è l' oro e l' oro di quelle terre è fine; qui c' è anche la resina odorosa e la pietra d' onice. Il secondo fiume si chiama Ghicon: esso scorre intorno a tutto il paese d' Etiopia. Il terzo fiume si chiama Tigri: esso scorre a oriente di Assur. Il quarto fiume è l' Eufrate.

IV, 15-16

...il Signore impose a Caino un segno, perché non lo colpisse chiunque l' avesse incontrato. Caino si allontanò dal Signore e abitò nel paese di Nod, ad oriente di Eden.

From *The Holy Scriptures, Hebrew and English*, The Society for Distributing Hebrew Scriptures, University Press, Cambridge (circa 1990). Same text in *God's Breath, Sacred Scriptures of the World*, Marlowe and Company, 2000.

II, 8-14

And the Lord planted a garden eastward in Eden; and there he put the man he had formed. And out of the garden made the Lord God to grow every tree that is pleasant to the sight and good for food; the tree of life also in the midst of the garden, and the tree of knowledge of good and evil. And a river went out of Eden to water the garden; and from

there it was parted and became into four heads. The name of the first is Pison; that is which compasseth the whole land of Havilah, where there is gold. And the gold of that land is good; there is bdellium and the onyx stone. And the name of the second river is Gihon; the same is it that compasseth the whole land of Ethiopia. And the name of the third river is Hiddekel; that is which goes towards the east of Assyria. And the fourth river is the Euphrates.

IV, 15-16

... and the Lord set a mark upon Cain, lest any finding him should kill him. And Cain went out of the presence of the Lord, and dwelt in the land of Nod, on the east of Eden.

From the above, we can extract the following geographical information:

- There is a region, named Eden, associated with four rivers
- In the eastern part of Eden there is a Garden, called also Paradise in the quoted Clementina Vulgata and in the Septuaginta, rich of beautiful and useful trees (including two very special trees)
- The first river is named in the translations as PHISON/PISON/PISHON. We will adopt Pishon. It forms the border of a region called HAVILATH/HAVILAH/AVILA, we will adopt Havilah, rich of gold, onyx and a material called bdellium, apparently a “perfumed resinous material”.
- The second river is named in the translations as GEHON/GIHON/GHICON, we will adopt Gihon. It borders a land named in the translations as Ethiopia, but originally called CUSH/KUSH in the Masoretic text. The identification of Cush with Ethiopia goes back to Josephus’ work *Antiquities of the Jews*, where the African kingdom of Kush, documented south of Egypt since at least the 20th century BC, was thought to be the Cush in Genesis, leading to the further identification of the Gihon with the Nile, a current belief in Ethiopia.
- The third river is given as TIGRIS or HIDDEKEL (also HINDEKEL in other translations), we will adopt Hiddekel, the name in the Masoretic text. This river has been identified since antiquity with the Mesopotamian river called Tigris in classical times, called now Dicle in Turkey, Dijlah in Irak. It is stated that it flows east of Assyria (actually, of Ashur, in the Masoretic text).
- The fourth river is given as Euphrates, the classical name of the longest river in Mesopotamia, flowing now through Turkey, Syria and Irak with the names Firat in Turkish, Al Furat in Arabic. This river is rendered in Rohl [11] as Perath. The consonantal name in the received text is NHR PRT.

In synthesis, we have from Genesis the following essential geographical information:

- A region called EDEN, wherefrom 4 rivers originate
- A well watered “garden”, “paradise”, in the eastern part of Eden, rich of fruit bearing trees
- The names of the 4 rivers, with the specification that one of them flows eastwards of a region called Ashur. The two rivers Pishon and Gihon border respectively lands called Havilah and Kush.

Further geographical information on Eden exists probably buried in the immense literature given by the Talmud, Midrashim, ancient Hebrew, Christian and Muslim

commentaries, and in particular in the creation texts of ancient Mesopotamia, which are currently believed by many to have been sources of Genesis (our opinion is that while both Genesis and Sumerian/Akkadian texts describe the same events, they are based upon independent parallel traditions). We have been unable to look at such complementary information, except for the Sumerian/Akkadian sources and the Book of Enoch, which are discussed in another essay [51], and which in our opinion confirm the geographical identification given here. However two pieces of such possible information are briefly considered here.

In Ginzberg's [17] *Legends of the Jews* the four rivers are identified with Ganges, Nile, Tigris and Euphrates, which are said to have all of them their source at the foot of the Tree of Life. The Garden is identified with the place that the souls of dead have to cross before reaching their final destination. This identification cannot be accepted to correspond to a real place on Earth. But the following statement will be of interest in our further discussion: *Adam was allowed to eat only the fruits of the fields. Prohibition to eat animals was removed only at the time of Noah, after the Flood.*

In Sumerian sources (tablet W-B/144, see Sitchin [40]) the existence was claimed of a city, named Bad Tibira, a metallurgical center, located in Edin (E-DIN, House of the Righteous Ones, according to Sitchin; other interpretations include *steppe* or *terraced garden*). It is very likely that Sumerian Edin and Biblical Eden are the same region. To Bad Tibira the body was brought of the dead god Dumuzi, beloved of Inanna, for what appears to be an embalming process. The body was then kept in a shrine over a slab of lapislazuli, see Sitchin [19]. Bad Tibira is also mentioned in the Sumerian king list (given also in Berossus, Apollodorus and Solinus) as one of five pre-flood cities (the others being Eridu, Larsak, Sippar and Shuruppak), that were governed by 8 antediluvian kings of extraordinary longevity (for a total of 241.200 years; three kings in Bad Tibira reigned 108.000 years). We will not discuss in this essay the question of such enormous spans of years (that quite intriguingly would take us close to the year zero for the common female and male from whom all present mankind seems to descend after recent genetic analysis results...). We here just observe that the Sumerians claimed to have arrived to the land that we call Sumer in southern Irak, from a far away place in the east, called Dilmun, where they lived before the Flood. It therefore would appear natural to locate the five above cited prediluvian cities elsewhere from Mesopotamia, the cities identified in Mesopotamia with this name being thus postdiluvian cities to which the ancient names had been attributed.

3. On the identifications of Eden proposed by Salibi and Rohl

Letting aside the (albeit very reasonable) approach that the geographical data about Eden in Genesis are "symbolic" or "embellishments", in this section we will consider two serious proposals made recently about the geographical location of Eden. First we observe that ancient attempts to a geographical identification, like the one by Josephus or the one in the quoted *Legends of the Jews*, lead to geographical absurdities, that can be understood in terms of the vague notions then available on the world geography, particularly concerning the interior of the continents. The identification of the Garden of Eden with some part of the Tigris-Euphrates plain in Irak, given in the quoted *Art Bible*, is still popularly believed to be true in Irak. In the fifties the specific point was claimed to be where the Tigris and Euphrates join to form the Shatt-el-Arab; there even a resthouse was built, named *The Garden of Eden Resthouse*, see Heyerdahl [21]. In the 18th century Eden

was the name of an island on the Tigris, at a strategic point where the river was more easily crossable, see De Claustre [52, p.115]. The discovery in the 19th century of the ruins of the extremely ancient cities of the Sumerian and Akkadian civilizations, that were believed to be the most ancient cities, was probably also a factor for setting Adam as first *homo sapiens* in that region.

We now consider the serious proposal made by Salibi [2] in chapt. 16 of his book *The Bible came from Arabia*, which further develops the revolutionary thesis proposed in [1] that the Land of Honey and Milk is to be found in Asir.

Salibi identifies the Garden of Eden with the oasis of Junaynah, along the Wadi Bishah, in the eastern part of Asir, latitude 20° 20' N, longitude 40° 55' E. The oasis was visited in the early 1930' by Philby, who described also some abandoned ruins, see [22].

The Wadi Bishah, shown for instance on p. 33 of *The Times Atlas of the World, Comprehensive Edition, 1974*, has his source in the high Asir mountains, about 150 km south of Junainah, getting lost in the sands of the Rub-al-Khali about 300 km east of the oasis. A number of rivers, or presently wadis, the longest being wadis Ramiah and Tathlith, join it to the east of the oasis. Using to a large extent the linguistic transformation called metathesis, Salibi proposes the following identifications with Genesis names.

- The Pishon with Wadi Tabalah, whose Biblical name survives in the village Shufan near its headwaters
- The land Havilah with Havalah, where gold was found in antiquity, probably the mining area quoted in Strabo's description of Arabia. Salibi proposes moreover that "carnelian" should be the correct translation of the Hebrew word H-SH-M, usually translated as onyx, while "bdellium", Hebrew B D L H, should be the gum now called *Meccan balsam*, a product of the plant *Commiphora Mukul*
- The Gihon (G H N in Hebrew), flowing around the land of Kush (K W SH in Hebrew) is identified with Wadi Bishah, one of its headstreams being still called Wadi Juhan. Cush is identified with the village Kuthan
- The Hindekel (H D Q L in Hebrew) survives in the name of the village Al Jahdal, near the source of the Wadi Tindahah, that initially flows east of the village of Bani Thawr (T W R), this last name by him identified with the Hebrew word SH W R, usually translated as Ashur/Assyria
- The Euphrates, Hebrew N H R P R T, is identified with Wadi Kharif, P R T being now associated, by metathesis, with the name of the village Al Tafra (T P R instead of P R T)
- The name Eden (D N) survives in that of the oasis Adanah (D N), while the oasis Junaynah (G N Y N, diminutive of GN) preserves the name of the Garden (G N in Hebrew)
- The land of Nod (in Hebrew N W D, *land of wandering, of nomadism, of being homeless*) is then the arid land east of the Junaynah oasis, before reaching the sterile sands of the Rub-al-Khali.

The proposals of Salibi provide a lot of insight into the geographical names of Eden, in addition to a clever identification of places. However we deem the identification we propose later on to be more satisfying because:

- We have four BIG rivers, all having a source in the same great mountain, and flowing out of that mountain in distinct directions, only one of them to the east. The geography of Salibi has one moderately long river, Gihon = Wadi Bishah, flowing in a mainly

eastern direction and collecting the waters of the other rivers, which are quite small in length.

- We are additionally able to propose, at least for some of the geographical names, a very pregnant explanation of their original meaning, that moreover illuminates several aspects of ancient history and traditions.

We agree with Salibi that Asir was most probably the Land of Honey and Milk. Under this identification it is likely that the people who settled there with Abraham, coming from Ur of the Chaldeans in Mesopotamia (not necessarily the Sumerian Ur; possibly Ur Kasdim on the upper Euphrates; Ur was a rather common name, just meaning *city*) brought with them names of traditionally sacred places and therefore renamed with them new places, trying to respect the geographical features of the ancient places. They had come most probably from upper Mesopotamia, eastern Anatolia, where names associated with Eden existed if Rohl's identification, discussed in next section, is correct. The process of renaming new places after ancient ones has been common in history for migrating people. See for instance the seminal monograph of Vinci [23], who on geographical (and climatological) reasons has convincingly claimed a Baltic origin of the Greeks and a Baltic and North Sea setting of the events described in Iliad and Odyssey.

We consider now the identification of Eden proposed by Rohl [11], within a rather grand attempt of identifying Biblical figures with corresponding Mesopotamian ones. The proposal by Rohl uses several ideas originally due to Walker [24]. It is the following.

- The river N H R P R T is the Euphrates in Mesopotamia
- The river Hiddekel is the Tigris in Mesopotamia
- The Gihon is identified with the eastern Anatolia river Araxes, whose source is near Erzurum, north of Lake Van and that flows into the Caspian Sea. This identification is supported by historical evidence that in the 8th century a part of this river was called Gaihun and that in 19th century the Persians still called it Jichon-Aras
- The Pishon is identified with the river Uizhun, rising from the extinct volcano Kuh-i-Sahand, south of Tabriz, a name linguistically related to Pishon via the substitution U by P, that seems to be locally attested in other name changes (e.g. the village called in different times Uishteri or Pisdeli)
- The land of Cush, bordered by Gihon, is identified with ancient Cossaea, which according to ancient geographers was located somewhere near the Caspian; it is also noted that the pass leading from Tabriz crosses a mountain ridge called Kusheh Dagh, i.e. Mountain of Kush
- The land of Havilah is identified with the Anguran region associated with the Uizhun river, where gold and stones are known to have been collected in ancient times
- The Garden is identified with the plain east of Lake Urmiah, where the city of Tabriz is located, surrounded by mountains and watered by the river Adji Chaiy
- The land of Nod is identified with the mountain region east of Tabriz, near the city of Ardebil, where a town is found named Noadi and villages named Noqdi. Also near Ardebil is the town Helabad, formerly known as Kheruabad (settlement of the Kherus?), which may provide a reference to the Kerubim, who defended the eastern border of Eden.

Overall, the region of Eden in Rohl's identification, where the four rivers take their sources, corresponds to a sizable part of ancient Armenia (now, after the elimination of most the local Armenian population by Turks and Kurds at the beginning of the 20th century, this land is mainly part of Kurdistan and Azerbaijan). Rohl moreover supports

the identification of the land called Aratta in Sumerian sources, that was rich in gold and lapislazuli, with the Miyandoah plain south of Lake Urmiah, a part of historical Armenia, in his general location of Eden. He identifies the volcano Sahand with the “Mountain of Assembly” of the Sumerian gods.

As was the case with Salibi’s identifications, also the proposal by Rohl is rich of arguments, certainly indicating that some geographical features in the area were named with reference to names associated with Biblical Eden. But again we think that such naming was given by a populations who migrated there and wished to keep a memory of an original land that was left behind. Our main objections to the geographical identification proposed by Rohl are the following.

- Genesis presents the four rivers as originating from a same place. As Rohl too observes, the Hebrew word Rosh (head) refers to a source, not to an estuary. This point will be discussed more extensively later on, clarifying the issue of the four sources. Now the rivers identified by Walker and Rohl certainly do not have a common origin. Indeed, using for instance Plate 37 in the quoted Times Atlas, we estimate the following distances between the sources of the four rivers:
 - about 160 km between the sources of Tigris-Askar, from the Hakres Daglan mountain, and the source of Firat-Kara, in the Kargapazari-Dagy. Moreover the two mountains where these rivers originate are separated by the important valley of the Murat river, coming from north of Lake Van
 - the Aras river sources are indeed very close to those of the Euphrates (Furat-Kara), one just about 10 km from the Kara source north of Erzurum, therefore again about 160 km from the Tigris-Askar
 - the Uizhun (also spelled Qezel Owzan) has its sources from the Sahand volcano, a quite substantial distance of about 500 km from the sources of the other three rivers, by which it is separated by a complex system of valleys and depressions, including those with the lakes Van and Urmiah.

The proposed place for the Garden, namely the flat land crossed by the Adji Chay river, is about 80 by 40 km of size, so that, while surrounded by mountains, it does not really give the impression of a “paradise” as a “walled enclosure”, as was obvious to me when I visited Tabriz. Moreover it is quite likely that much of it was filled with water just a few millennia ago, the present very salty Lake Urmiah being the remnant of a much larger lake that existed during much of the holocene, part of whose previous bed is evident in the salt covered flats around it.

The four considered rivers flow all in a general direction eastwards, while Genesis specifies such a direction only for the Hiddekel, which at least suggests that the other three rivers flew in a different direction. Finally the four rivers in Genesis, or more precisely their source, are associated with the watering of the Garden. In Rohl identification this is done by a distinct river, the Adji Chay.

Here we should quote briefly two more identifications of Eden in the Middle East. Collins [48] predates Rohl in identifying Eden with eastern Anatolia, with one change in the list of the four rivers. He identifies the garden with a flat land south of Lake Van (here again our criticism applies that such a land was probably flooded in ancient times). O’Brien C. and

B. [14, 53] identify Eden with the Hermon mountain area in southern Lebanon, disregarding the data on the rivers as “embellishments”. The important work of the O’Briens, based mainly upon the Books of Enoch and the Cylinder of Nippur, is discussed extensively in Spedicato [52].

4. Eden in the East: towards a validation of Genesis geographical data

Eden in the East is the title of a recent book by Oppenheimer [25], a medical doctor with interests in archeology and the origins of civilization. In the book he stresses the importance of south-eastern Asia for the origin of our civilization, a geographical region a substantial part of which was flooded after the rise of ocean levels following the melting of last glaciation ices, circa 9500 BC (disregarding later weaker episodes of glaciation-deglaciation). Oppenheimer claims that many elements of ancient civilizations, that are usually thought to originate in Egypt or Middle East, have a more ancient origin in the Far East. While we do not go as far as he does (but with regard to Eden he does not propose a particular identification, considering the geographical data as “embellishment”), our identification is definitely in the east, with respect to the usual Middle East proposals. We propose a specific place close to the heart of Asia, where four mighty rivers are born from the same mountain and where four mighty ranges of mountains meet, with natural routes leading to the other parts of Asia.

The proposed identification of Eden came suddenly to the mind of this author during a night of March 2000. I had finally begun reading the book of Rohl, *Legend, the genesis of civilization*, that I had obtained directly from the author in November 98, at one of the meetings in London organized by Andrew Collins, author of important work on the origin of civilization. I had read some time before the first book of Rohl, *The Bible, from Myth to History*, with immense fascination, almost unable to put it down. I had bought it in a bookstore of York University, where I was attending a math conference, and the book was read during the time of the conference, by night and during the hours of a train trip to Edimburgh. I had been unable to read the second book of Rohl for over one year, during which period inter alia I had worked on a paper proposing new itineraries for Gilgamesh travels, see Spedicato [15]:

- First trip, to the Hunza valley, in high Kashmir, which I identified as the land in “Lebanon”, where Gilgamesh killed Humwawa and brought back a cedar, thus a *Cedrus Deodara*, not a *Cedrus Libanotica*
- Second trip, to the sources of the Yellow River, where Mount Mashu or Mount Nimush was identified with the Anye Machen range, still a sacred mountain of the local Ngolok population.

The above two trips clearly indicated a connection between Mesopotamia and the heart of Asia, the region where Dilmun might be located, the place in the east wherefrom Sumerians claimed to have arrived after the Flood. Let us here recall that till the 8th century AD the lingua franca in the Tibetan/Mongolian area was *zhang chung*, see Hummel [28], from the name of a people who controlled the area politically and culturally for a long time, and whose origin seems to have been in the region of the Anye Machen (the region where Ziusudra/Utnapishtim survived, as we claimed in [15]. Now in *zhang chung* DI means *blu*, while MUN means *sky*, which would provide a perfect identification for tibeto-

mongolian part of Asia, where the sky is a deep blue due to both the elevation and absence of humidity.

When, reading Rohl, I came to his proposed identification of the four rivers of Eden, I took the Times Atlas and checked their position. It was immediately clear that the rivers did not share a common origin, except the Euphrates and the Araxes. I then looked at the large scale map of Central Asia in plate 27. No system of four rivers originating from a same mountain was visible. Then I looked at the map of the Hunza valley in the National Geographic 1985 article by McCarry that had provided useful information on the Hunza people. There it was! Four rivers coming out of the great mountain that separates the Hunza valley, in Pakistan, from the Wakhan valley, in Afghanistan. Four substantial rivers, one ending up over 2000 km in the east, in the sands of the Lop Nor desert, another over 2000 km west in the Aral sea, two flowing in a mainly southern direction, joining at the end of the mountains and ending up as the mighty Indus rivers in the Indian Ocean over 2000 km south. Three of the rivers have a source within a few km one from the other, the source of the fourth river is also rather close, all four rivers collect the waters of a mighty snow and ice covered mountain located where the four ranges of Pamir, Hindukush, Kunlun and Karakorum meet (the Mountain of the Assembly? The Mountain of the Gods?).

In the next sections I will discuss in detail the proposed identification of Genesis geographical data. Then I will propose some possible consequences of the proposed identification, in terms of new meaning that can be attached to extremely ancient symbols or behaviours in human traditions.

5. Gihon and Kush identified

We identify the river Gihon with the river flowing out of the eastern part of the Wakhan valley, under the Vahir Lo pass leading into China, in the eastern part of the province Badakhshan of Afghanistan, the “finger” that Afghanistan points towards China, between Pakistan (the Hunza province of Kashmir) and Tajikistan (the Autonomous Badakhshon Region, see Nelley Map, ISBN 3-88618-665-2). Not far from the considered source, the river is engrossed by the Oksu/Aksu, coming from Tagikistan Badakhon (a region where incidentally ancient Saka language is still spoken in some isolated villages); it follows the Wakhan valley with the name Wakhan, then for about 1000 km it acts as a border line between Afghanistan and Tagikistan, flowing with the name Panj in a great curve with a narrow valley amid high mountains . It enters the Turanian plain near the town called Panj, not far from the ruins of a Greek city. Here it takes the name Amu Darya and after some 1000 km it enters the Aral lake. Dessicated river beds, where the once important, now rather small, city of Khiva is located, indicate that not many centuries ago it entered the Caspian sea. The river enters the Turanian plain being very rich of water. The water is now almost completely exploited for irrigating cotton fields, which is resulting in the drying up of the Aral. In classical times the river was known as Oxus, meaning in Sanskrit “great water”. It was the natural divide between the region of Turan, land of horsemen, and that of Iran, the recurrent wars between the two areas, one mainly of nomads, the other of settled people, constituting the central content of the iranian epic Shahnameh of Ferdowsi.

The identification of the Amu Darya-Panj river with the Gihon is based on the observation that in all maps made before the 20th century that I have consulted the name Gihon, not

Panj, is given to the river in the mountain part of its basin. See for instance Plate 47 in *Atlas Compendarius Quinquaginta Tabularum Geographicarum Homanniarum.....Norimbergae A 1752*, where the river is shown with the name Gihon amidst the mountains, becomes Amu at the exit of the mountains near the city Amu/Amol (often quoted in the *Shahnameh*), retakes the name Gihon before entering not the Aral but the Caspian sea. It appears with the name Gihon or Amu in plate 35 of the *Nouvel Atlas Portatif, par le Robert de Vaugondy, Paris, 1762*, with the town Amu again shown at the end of the mountain region, the river now ending up in the Aral sea (the previously quoted Homann Atlas was a late edition of a famous atlas that appeared at the end of the 17th century, hence we suspect that the diversion from the Caspian to the Aral happened between 1650 and 1750). It appears only with the name Gihon in the map of Asia of the *Nuovo Atlante di Geografia Universale in 52 carte, del Cav. Luigi Rossi, Milano, Batelli e Fontana, 1820*. In the *Atlas Classique de La Géographie, par V. Monin, Paris, 1846-47*, on plate 18 it appears with the name Amou Deria for the part in the west and Djihoun in the east. The town of Khiva is shown, that of Amu/Amol is not. The river ends in the Aral, the dry bed leading to the Caspian being also shown. Coming to the beginning of the 20th century, in the *Atlas de Géographie Moderne, Paris, Hachette, 1914*, in the rather detailed plate 4 the city of Khiva appears at some distance south of the river, the town of Amu/Amol is no more listed, the river is named Amu Darya in the plain, Pandji and Wakhan in the mountains. It so appears that after 1850, with the arrival of European powers in central Asia and the tendency of renaming places with administrative criteria instead of the traditional ones, following the fashion started by the French Revolution, two ancient names disappeared, that of the town Amu/Amol, and of the river name Gihon, substituted by Panji or Panja.

That the river named Oxus in classical times kept the Biblical name Gihon or some easy variant of it until relatively recent times we know also, e.g., from the *Novum Lexicon Geographicum, Philippus Ferrarius, Patavii, MDCXCVI*, where at the entry Oxus we read: *Oxus fluvius est Sogdianae, quem Arabes Gichonem vocant, cuius memeruit Achmed Gueraspi filius in Themiris historia, eumque Ghaion, Gihon et Iihum vocat*. Also in the *Abrégé de Géographie* of Balbi, Paris, 1842, we read (p. 716): *..l' Amou-Darya (l' Oxus des anciens, dit aussi Djihoun....).... Le Syr-Darya (le Jaxarte des anciens), dit aussi Sihoun...* Since Syr-Darya means “river (or sea) of lions”, the above suggests that the syllable ON in Gihon, and for extension in Pishon, may mean river. Now G H N in Hebrew means “something bending”, which nicely describes the substantial loop that the Gihon makes amidst the mountains.

We pay now some attention to the name Amu Darya, that is given to the lower part of the river, between the mountains and the Aral (or Caspian) sea. “Darya” is a Turkish word, used also in Persian, that means essentially “sea” (*Darya ye Khazar*, “Sea of the Khazars”, is the present Persian name for the Caspian sea); it is however also given to large rivers. It is now legitimate to ask if the meaning “sea”, i.e. a vast expanse of water, has a root in a different ancient configuration of the Turanian region. Such a region, as is true also of other large parts of Central Asia, most notably the Xinjiang basin and much of Tibetan plateau, but also of sizable areas in Iran and Afghanistan, does not presently have an outlet to the ocean, a fact that has been certainly true for the whole of the holocene. There are therefore inner lakes, some huge like the Caspian, other smaller like the Aral, the Balkash, the Hamun...., usually very salty, and moreover there are large salty expanses that are the remain of previous water expanses now completely dried up (except for becoming salty marshes during heavy rains). The drying up process, now strongly accelerated by man’s use of riverine waters for irrigation, see the dramatic case of the Aral, has actually been going on for several millennia. This natural phenomenon is due to the unbalance between the amount of water carried by the rivers and that lost due to

evaporation. Now, barring decrease of rain in recent times, one has to explain how formerly much larger water basins came to be formed. A natural explanation is that they were suddenly formed during during catastrophical events not too many millennia ago, when inner depressions, isolated from the oceans, were filled to a level much higher than the normal level given by the balance between evaporation and natural water intake from the associated riverine basin. The catastrophical events able to fill inner depressions are tsunamic waves from the oceans, due for instance to cometary or asteroid impacts, see Spedicato [43], or to rapid changes in the Earth axis, see Barbiero [44] or Woelfli and Baltensperger [45], or unusually strong rains, or melting of large preexisting glaciaries or even arrival of water from extraterrestrial (e.g. cometary or planetary) sources, see Ackermann [54,55]. Now there is a strong evidence that inner basins in Central Asia were dramatically more extensive than now in quite recent times. For instance literary sources like the Shahnameh describe the Sistan region, now virtually a desert with the Hamun lake close to collapse, as a rich grassland full of large game, the preferred hunting place for the hero Rostam; it was in the third-second millennia BC one of the most developed areas in the world, with large cities that were metallurgical and trading centers. The map of the Iranian/Turanian region in the Ptolemy Atlas, over 2000 years old albeit it survives only in later copies, shows a huge Caspian sea with no separate Aral, which seems to be incorporated in the Caspian, the greatest length of the Caspian being shown to be in the east-west direction, not south-north as it is now. Admittedly, ancient maps are not up to present standards of accuracy, but the region was certainly well known by traders and was for a long time under control of the Persians, whose communication system was well organized with rather precise estimates of distances between different stopping points. Thus a mistake of such enormity appears as rather unlikely. The most impressive confirmation that Central Asia a few thousand years ago was immensely more rich in water than now has been obtained very recently from analysis of satellite pictures. They have shown for instance that the Takla Makan desert, now a huge wasteland with dunes over 200 meters high, was an inner sea of sweet water over a thousand meters deep at the end of the last Ice Age, see Ryan and Pittman [18], quoting the work of the Turkish geomorphologist Erol Orguz. Such findings open new vistas on development of civilization, since the deserts of Central Asia, where archeological work has been rather scanty, but is now beginning to provide dramatic findings of civilizations at least 4000 years old, see Mallory and Mair [27], may have been the place of civilizations predating even Sumer and Egypt. Perhaps the relations that Hummel [28] described as “traces of Eurasia in Central Asia” will become known in the future as “traces of Central Asia in Eurasia”.

The above considerations provide therefore some weight to the hypothesis that, say in 5500 BC, the date to which Adam’s story may be set following the chronology of say the Septuaginta Bible (this date corresponds to the beginning of the Ethiopian calendar), the Gihon river, at its exit from the mountains, would end up in a huge inner sea incorporating the Caspian and the Aral and covering much of the Turanian plain. A true sea therefore, to be properly named the *sea of Adam*, if Amu can be taken as a contracted form of *Adamu*, and if the route taken by Adam after his expulsion from Eden, in a literal following of the Genesis story, took him westwards, towards the dying Sun, via Wakhan and the narrow valley of the Gihon. We can thus hypothesize that Adam settled first at the foot of the mountains, in front of the great sea that now has retreated. We may even hypothesize that the specific place where he initially settled is where the ancient historical town of Amu/Amol was located.

We now discuss the other geographical element in Genesis associated with the Gihon, namely the territory of Kush, that was bordered by the Gihon. The identification of Kush

is quite obvious in our context. It is the mountain range just south of the Gihon/Pandji, that is now named Hindukush, one of the three great chains of mountains, with Pamir and Karakorum, that join up in the massif that separates the Hunza valley from the Wakhan valley, wherefrom the four rivers of Eden originate in our identification.

The word Kush might be related to the Sanskrit *ku*, meaning “*summit, peak*”, or to *kushtan*, a Persian/Sanskrit word meaning “to kill”. In the first case it would nicely describe the region both south and north of the Gihon, full of high mountains reaching often 7000 meters; the region south of the Gihon is now called Hindukush. The second name would define a “*place of the killing*”. Which killing? Again in the framework of a literal following of the Genesis text, the killing of Abel is the first candidate, and this interpretation is stressed by the meaning that we will find for the other region named in Genesis, Havilah.

It is also easy, we believe, to explain why the name Kush was at a certain time modified in Hindukush and why a Kush is found also south of Egypt, leading to the often used translation as Ethiopia and the naming of a branch of the Nile as Geion by Ethiopians and Egyptian Copts. Our explanation, if correct, also illuminates some aspects of Exodus and of the life of Moses. It is given in the Appendix.

The part of Afghanistan bordered by the ancient Gihon has presently the name Badakshan. One wonders if this name derives from ancient toponima. We can see it as a shortened form of Badakushstan. Now “stan” means “land of”, “kush” has been discussed, any meaning for “bada”? As we noted before, Bad Tibira was one of the five prediluvian cities named in Sumerian texts, a place for working metals (copper, gold) and stones. There the body of Dumuzi was embalmed and laid over a slab of lapislazuli. The Sumerians came from Dilmun, a land in the east, and must therefore have brought with them information on prediluvian cities located in the East, not in the Middle East Mesopotamia, where cities were rebuilt with the ancient names of a previous easternly place. Now any country with pristine mountain rivers is likely to have gold in the river beds, and Afghanistan is still a producer of copper. Lapislazuli have been mined since immemorial times from a single mine in Badakshan, the famous Blue Mountain, virtually the only mine in the world. These elements suggest that Bad Tibira was probably located in Badakshan and its name has provided part of the name of this region. Northern Afghanistan, finally, was called Bactria in classical times, a word whose consonantic content is quite close to that of Bad Tibira. We can stress this association by noting, see Cimmino [49], that ancient Egyptians called the lapislazuli with the name of the country where they originated. This is given as *Khes Bed* or *Tefrer*. Now the vowel *e* is the default choice of Egyptologists for names where the exact ancient vowel sound is unknown, hence *Khes Bed* could well be *Khus Bad*. We also notice that the consonants in *Tefrer* (usually thought to correspond to Sippar in Mesopotamia where caravans exchanged their goods) are quite close to those in Tibira.

5. The Hiddekel identified

Just within a few km of the Amu Darya source proposed by us another river is born, which descends the steep valley of the Mintaka/Minteke pass, is joined by another stream coming down the Vahir pass, flows east for some 50 km, turns north for some 70 km, then flows in a main east-east-north direction first with the name Tashkurgan, then Yarkhand, then

Tarim, ending in the wastes of the Lop Nor desert, some 2000 km east-east-north of its source. As Yarkhand it crosses the Takla Makan desert (the name according to some means *you get in, you don't get out*. Sven Hedin was the first western explorer to cross it from south to north, barely escaping death by lack of water; some years later Aurel Stein crossed it in the more difficult direction north to south), where it is often completely dry. As Tarim it defines the northern border of the Takla Makan, skirting the south side of the Tien Shan or Tengri Tagh (Sky Mountains) range, where several rivers coming from these high (up to 6000 m) mountains feed its waters.

The Mintaka pass, elevation 4709 m, is one of the passes associated with the southern branch of the Silk Road, connecting China to India, whose use is documented since several millennia. The name of the river in the present Chinese side of the pass does not appear in usual Atlases or tourist maps, but is found in the *Cultural Travel Map along the Silk Road*, produced by the company Viaggi dell' Elefante, founded by the archeologists brothers Dutrot, Rome, 1998. There it is given as *Ming-t'ieh-kai Ho*, Ho being river in Chinese, and the rest being virtually Minteke.

We propose that Minteke is the modern surviving name of the Genesis river Hiddekel, in view of the following reasons:

- The Minteke-Yarkhand-Tarim river has a source close to that of the Gihon/Amy Darya and a mainly eastwards direction
- There is a significant consonantal similarity between the two names M N T K, H D D K L, in view of the tendency of names to get shorter with time (so L is dropped), of easy variations in double consonants as sound reinforcing, T and D being both dental....

We are not sure of the original meaning of Hiddekel/Minteke, but two proposals are the following:

- according to a suggestion of D'Ausser Berrau, it could relate to the Akkadian *Dekuto = geographical depression*; the river does indeed end up into the Lop Nor depression, below sea level)..
- *Mikado* is a title that Japanese attribute to their emperor, meaning *august gate to the sky*. Japanese believe that their emperors originated from the west, from the heart of Asia. Now Minteke and Mikado are phonetically similar and Minteke, most probably the original name of the river that now has several names, goes indeed very high through a valley that is narrow and rocky. *Mi* may relate with *mu*, that we have seen had the meaning of *sky* in zhang chung. *Teke*, related by metathesis and inessential changes in vowels and in the dental t and d, to *kado*, may be related with the ancient Turkish/Persian word *takht* or Uighur *tash*, which refers to a stony monument, like a throne (there are many *takht-e-Suleiman* in Asia, supposed thrones of Solomon). Therefore we can see in the title of the emperor a reference to the way out of Eden eastwards, via the river Minteke.

The fact that Hiddekel was classically named, in the Mesopotamian context, Tigris, which is the Latin name of the beast tiger, is intriguing. Indeed there is no evidence of the existence of tigers in Mesopotamia during Sumerian or Babilonian times, while there were elephants, lions and leopards. Thus Pomponius Mela explained the origin of the name with a supposed fast flow of the river waters, which may be true for the part of its course in Anatolia, where the average slope of the river is higher than that of the longer Euphrates. But tigers existed well into the 20th century in the Turanian region (the famous tigers of the Aral, of Amu Darya and of Mazandaran) and possibly till the beginning of that century in Zungaria, see Lattimore [29] and in the Lop Nor region, see Hedin [30]. Tigers thrive in reeds areas, which were abundant where the river reached the flat lands of the

Taklamakan region. There might have been tigers in the marshy areas of the Shatt-el-Arab before the Flood, hence previous to the arrival of the Sumerians; if so they probably did not survive the great flood and tsunami that coming from the Persian Gulf devastated the lowland of Mesopotamia. Thus an association of Hiddekel/Mintaka with tigers seems to be an interesting possibility. Here we could add that the name of the river Indus, locally called Sindh/Sundh since at least 2000 years, is to be associated with the name Singh, the most common family name among the Sikhs, and Senge, the Tibetan name of its main source from the northern side of the holy Kailas mountain; both Singh and Senge mean *lion*. With this notice, the land of Eden appears to be located south of the land of tigers and north of the land of lions, a safe place between dangerous lands....

Another intriguing observation is that Mintaka appears as the name *Al Mintaka* of one of the three central stars in the Orion constellation, those defining the belt of Orion, whose possible association with the three great pyramids (in terms of similar alignment, angular distances and relative luminosity) was claimed by Bauval and Gilbert [31]. *Al Nilam* is the name of another of the three stars, to be easily related to the river Nile; the name of the third star *Al Nitak* may relate by metathesis to the river Tanai. The three stars would therefore be associated with three rivers defining a very special region, that one could argue was the region settled by the descendants of the three sons of Noah (Cam in the nilotic region, Japhet in the region between Tanai and Mintaka, Sem in the region between those two).

Finally, we should discuss the Genesis statement that the Hiddekel “goes to the east of Ashur”, usually translated as Assyria. Already Salibi has rejected the translation of Ashur as Assyria. We are not certain how to explain this passage, but our guess is the following:

- ASH may be the root of the word ASIA, that in classical times was applied to the westernly part of present Asia, but has an intriguing Central Asian collocation in the kingdom of A-ZHA, located in the Tibetan area, see for instance Hummel [32] or Deshayes [33]. People named *Asioi* living in this area are also known from roman classical documents.
- UR may stand for city, as in Sumerian.

Thus the name might refer to a prediluvian city of Ur of Asia, here meaning “central Asia”, to be contrasted with a postdiluvian city Ur in Shinar/Sumer (albeit several Ur can be located in Middle East, e.g. Ur Kasdim in Anatolia, a fortress of Ur quoted by Ammianus Marcellinus in the Edessa region...). So if memory had been preserved of a previous ancient Ur in the heart of Asia, this would explain why the author of Genesis felt the need to specify that Abraham had come from the *Ur of the Chaldaes* (and, which of the Middle East Ur had he in mind?).

As a final very tentative guess we suggest as candidate for Ash-Ur the ancient, strategically located city of Tashkurgan, elevation 3200 m, where the river Mintaka changes its name in Tashkurgan and takes its mainly easternwards direction. One could even argue that Tashkurgan means *Gateway to the garden of Eden*.

6. Pishon and Havilah identified

We identify the Pishon with the river whose sources are located in the southwestern part of the massif separating Wakhan from Hunza, in present Chitral province of Pakistan. The river now has different names associated with the capital towns of the provinces where it passes. In the upper course the name is Yarkhun, then Mastuj past the town of Mastuj, then past Chitral it enters the Afghanistan province of Konar with the name Darya-ye-Konar. Near Galalabad (previously spelled as Jalalabad, the ancient winter residence of the Afghani kings) it joins the river Kabul. As Kabul it re-enters Pakistan after about 80 km, some 20 km north of the Khyber pass (as professor Petech informed me, ancient caravans followed the river bed, not the relatively recently open Khyber pass). It flows some 20 km north of Peshawar and reaches the Indus near Attock. From inspection of the map BALTIT, NJ 43-14, U502, 1962 revision, scale 1:250.000, we identify its sources from the Chiantar glacier, about 100 km west of the Mintaka pass, where the Mintaka/Hiddekel has its source. Between the Yarkhun sources and the Mintaka sources lies the mountain ridge separating Wakhan from the Hunza basin. About 20% of this massif is presently covered by ice, according to the quoted map, the ridge elevation being close to 6000 m, with some peaks, like Sakar sar, close to 7000m. Several short rivers get into the upper Gihon, presently named Abi-i-Wakhan, some of them with sources just a few km from those of the Yarkhun. The southern part of the ridge brings its waters to the Hunza river again via several smaller rivers, e.g. the Ribai-Karambar, whose sources are located immediately above those of the Yarkun, or the Chapursan river, whose sources are midway between those of the Yarkhun and the Mintaka.

Our identification of the Yarkhun-Mastuj-Konar-Kabul river with the Pishon is based upon the following arguments:

- It is one of the four great rivers flowing out of the massif separating the Wakhan and Hunza valleys. Two have been identified via linguistic considerations and the associated geographical qualifications (proximity to Kush, easternly direction). The NHR PRT will be identified on geographical qualifications. Thus this river is identified by exclusion.
- The ancient name Pishon is now completely lost in the present names, that we believe are of rather recent origin. We have been unable to get documentation about the ancient names, despite having contacted the explorer Fosco Maraini, who explored that area several years ago (exploration described in his book *Parapomismus*). The region crossed by the river is one of the wildest and most isolated in the mountains between India and Central Asia. The river valley is narrow, canyon like, with difficult access till recent times, even now the existing road is often close due to landslides. The area was until recently inhabited by fierce populations that resisted the introduction of Islam. It was indeed called *Kafiristan*, land of the unbelievers, and frequent bloody expeditions were led by muslim leaders against these “infidels”. The name Kafiristan was still present in maps of Afghanistan till half the 20th century and was also used for the Pakistani region west of Chitral-Drosh in the Times Atlas of 1974 (where, incidentally, part of Mastuj is called Chitral). So we are in presence of a region where ancient traditions have been wiped out to a large extent (part of them may survive in secret, marrano-like transmissions), with consequences not only in the religious domain, but also in the naming of geographical features.
- A survival of the root P-SH can be seen in a number of interesting cases:

- 1 – in the name of the city Peshawar, or Pishore in the 18th century, see [52, p. 226] traditionally meaning “city (awar, ore, pore,... the ancient root *ur!*) of the border”, which suggests the meaning “border” for P-SH
- 2 - in the name Pashtun of one of the main ethnic groups of the Afghani people. It should be noted, with reference to the discussion further below, that the Pashtun language has several words closely related to Hebrew, see Kersten [46], and that the Pashtun themselves claim to be descendants of Hebrew tribes
- 3 - in the name of the region Pashai, near the Kunar stretch of the river, about which see Thesiger [35]

Now we discuss the name of the region associated in Genesis with the Pishon, namely the land called Havilah. The suffix AH appears in semitic languages in several names of geographical regions, e.g. Aravah (the region between the Dead Sea and the Gulf of Aqaba) or Tihamah (the lowland of south-western Arabia, between Habi and Jizan). Thus we can propose *Havilah = land of Havil*. Now “Haveel” is “Abel” in Arabic (Hevel in Hebrew), the name of the second son of Adam. Thus, with wonderful agreement with the Genesis story, we have identified Kush with the land, south of Gihon, where Abel was killed, and Havilah, north-west of Pishon, with the land presumably originally settled by Abel. As a tentative guess, we may perhaps see a survival of the name Havilah in the name of the capital of Afghanistan, Kabul, or Kabol. Kabul is locally considered as the most ancient city in the world (Tiziano Terzani, private communication). We can see its name decomposable in KA and (A)BUL. We have given arguments in [15] that KA means, in a wide range of ancient languages, SOUL, PERSON, PEOPLE, thus Kabul may be interpreted as meaning (*the place*) of the soul of Abel.

We can further surmise that Havilah reappears in the Bible as one of the three geographical features of the land where Sargon II deported the Ten Tribes of Israel, a land named Halah, with a city named Habor and a river named Gozan. Halah can be seen as a shortened version of Havilah, Gozan can be seen as a variation of Gihon, and Habor by easy linguistic transformations becomes Kabol, the Persian name of Kabul.

A final interesting clue to locating Abel, who domesticated and ate sheep, to Afghanistan is obtained by the recent finding, see Ryan and Pittman [18], that ALL domesticated sheep now bred in the world originate from a wild variety in Afghanistan. This finding is based upon sophisticated genetic analysis. The story of Cain and Abel involves a conflict between Cain, who observed a prohibition to kill animals, that extra Genesis source claim was a law given to Adam, and Abel, who apparently had found a justification to overcome it, and used sheep for food and for sacrifices well accepted by divinity. One wonders: was Abel the man who first domesticated the wild sheep of Afghanistan, wherefrom all domesticated varieties derive? Notice that an affirmative answer to this question does not necessarily mean that there were no domesticated sheep before, whose existence is actually well documented from bones e.g. in Anatolia dated at least to 8000 BC. It simply means that the Afghani domesticated sheep was of better quality and slowly substituted the previous varieties, a process of economics that has been common in history.

Genesis states that Havilah was rich in “fine gold”, bdellium and onyx. Gold and onyx are not particularly special materials. Bdelium is a rare name that may point to an unusual material very specific of the region of Kabul (we basically have identified Havilah with the traditional Kabulistan). First we give the traditional interpretation for this substance, then we propose a tentative new interpretation.

Traditionally (Vegetius, Plaute, Pliny, Dioscorides) bdellium was a vegetable substance coming from Bactriana, with a beautiful smell, used typically mixed with wine during

religious ceremonies; it was obtained from the fruits, similar in aspect to the figs, of a tree similar to an olive tree; it was often black. Such a tree seems not to exist any more; the black colour of the fruit and the fact that it was made into kind of cakes suggests that the story is a commercial cover up for opium, which was and is produced in Bactria (and in the other countries traditionally referred to, i.e. Arabia, India, Media and Babilonia) and whose qualities seem to be consistent with those of the described bdellium. Thus, might bdellium have been something even more specific of Kabulistan? From De Claustre [52, 221] we read that: *les montagnes du Kaboulistan sont remplies de bois Aromatiques: il y croit beaucoup de drogues à l' usage de la medicine; on y cueille aussi les excellentes prunes de Mirabolans, que les Orientaux appellant Cabouli, don't on fait par tout un très grand cas. Mais ce qu'on y trove de plu particulier ce sont des mines assez fréquentes d' Amianthe.....on en fait des cordes, des toiles assez fines pour server de mouchoires, on les blanchit en les jettant dans un feu ardent, d' où elles sortent sans que le tissu en sois le moins du monde endommagé.....* So asbestos was the very special product of Kabulistan in the eyes of a visitor of the 18th century. Asbestos was known to the Romans, is quoted by Pliny, and was mainly imported from Bactria, albeit some production was also available in Greece (Arcadia). It was used to make special clothes (*asbestinum* was a special shirt), head covers and funeral linens where the ashes of a person – obviously a king or a very rich person – were collected during funeral cremation. A stone that can be worked in a tissue and that resists to fire is certainly something very special. This is, we believe, a possible alternative explanation, to be further analyzed, to the word bdellium.

7. Euphrates, the River of the Fruits, and the Garden of Eden

We are now left with the identification of the fourth river, the one rendered usually as Euphrates or as Perath. The consonantical wording in the Bible is NHR PRT. NHR can be vocalized as Nahar/Nahal, which is “river” in Arabic and Hebrew, albeit another possible meaning will be discussed later. PRT can be vocalized for instance as:

- Perath, i.e. fertility
- Parot, i.e. cows
- Pirot, i.e. fruits.

It seems impossible to give a cogent argument as to which one of the above meanings should be selected. We think that the name in a sense embodies all three meanings, thus having a general reference to fertility, production of food, of fruits in particular, features that characterized the Garden of Eden, as can be seen in more detail by looking at the Sumerian version of the creation (the cylinder of Nippur in particular).

At this point the identification of NHR PRT with the Hunza river in northern Pakistani Kashmir can be argued by the following arguments.

- The Hunza river is born from the same massif separating the Hunza valley from the Wakhan valley. As Kilik-Mintaka, this last name applied in the last stretch of about 8 km, it is born on the western side of the Mintaka pass, from the Gul Kwaja Ulwin glacier, just a few km from the sources of the Gihon and Mintaka; as Chapurjan it is

born from a system of glaciers, in the Koz group, virtually connected with the Chantar glacier that originates the river we have identified as the Pishon

- As Hunza river it waters one of the most interesting valleys in the world, the Hunza valley, elevation between 1700 and 2400 m, population 28.000 in 1981, 46.000 in 1994.

The Hunza valley presents a number of rather extraordinary features, see for instance [35] and [36]:

- It is a place very rich in vegetable and fruits, including about 20 types of apricots (in addition to plums, grapes, pears, almonds, nuts and some fruits only there to be found); the population before the opening of the Karakorum highway in 1978 was mainly vegetarian, surviving the winter on dried fruit and passing several weeks on very low calory intake before the summer harvest
- There is a local variety of cows of dwarf size, also found in Wakhan, that produce a small amount of milk and are used for transport of loads, being very skillful in climbing steep slopes
- The population converted to Islam only at the end of the 19th century, many to the Ishmaelites variety led by the Agha Khan. The local language, *burushashki*, is a very special and complex language, apparently unrelated to any other language in the world
- The population has always been noted for the extremely good health, life expectancy being of the order 100 years, many people surviving to about 120 years. People reach old age with excellent eyesight and hearing; men are known to father children at very advanced age.

The Hunza valley is mildly sloping in its main inhabited part, between Sikandarabad and Ainabad. The river Hunza flows in a deep bed, separating the valley in two opposite parts, with different styles of life. It is surrounded by high mountains, often over 6000 meters, culminating south of the river in the 7789 meters of the ice covered pyramidal beautiful peak of Rakaposhi, that was sacred to the local people, and north of the river culminating in another peak, curiously having almost the same elevation of the Rakaposhi, 7786m, and being located almost exactly on the same meridian. Such high mountains define virtual high natural walls between which the valley is located. These walls do not hinder excessively with their shade sunshine, since the cultivated part of the valley lies in the direction east-west, a fact that together with the rather southernly latitude (about 40°) insures many hours of sunshine.

The access from Hunza to Gilgit, in the south, towards the plain of Indus, is difficult, via a steep canyon prone to landfalls. Prior to the opening in the late seventies of the Karakorum highway about two weeks were needed to reach Gilgit by horse or mule on the harrowing trail that the British administration had developed when the area came under its control at the end of the 19th century, see Stein [41].

The above arguments allows to state that an excellent answer has been found to our search for the Garden of Eden: we have indeed found a very fruitful land, surrounded by high natural walls (a “paradise”, *paradisos* being a Greek word borrowed from Persian that means a *walled garden*), isolated, irrigated by one of four rivers having all the same source from a single massif.

We conclude this section with a discussion of the sentence in Genesis usually translated as “a river irrigated the Garden, then divided into four rivers, headstreams”. In real geography a river can divide into several branches either on a delta type estuary, which does not appear to be here the case, since the term “heads” refers to sources, or on very flat

land, where the branches recombine after a while, change after seasonal flooding episodes and are therefore ephemeral. The only case of a river whose waters may be considered to flow into two distinct directions is the Casiquiare river, in Venezuela Amazonas province, a river about 200 km long connecting the Orinoco to the Amazon (Rio Negro) basin. A river dividing into four branches flowing to distinct far away directions seems to be a geographical impossibility. This conundrum however has an easy way out. Indeed NAHAR is known to have also the meaning “snow field, ice field”. The mountain range where the four rivers of Genesis take their source in our scenario is very high land still significantly covered with snow. Snow cover in the past might have been more important. Thus we claim that not a single river was the source of the four rivers of Eden, but a single icefield or snowfield.

8. On Adam’s way out of the Garden

We can perhaps make an educated guess of the route that Adam took when he was expelled from Eden, under our working hypothesis that the Genesis tale was based upon a real event. An inspection of the geography of the region where the Hunza valley is located suggests the following:

- The route to the south, i.e. following the rivers Gilgit and Indus, was probably too dangerous, since till a century ago it required the use of precariously build trails along vertical walls, guaranteeing to the Hunza people a natural defense from invaders
- Routes to the east or the west would have been through very high mountains and never were developed into trade routes.

Thus there remain the three natural exits to the north, namely via the Mintaka, the Kilik or the Khunjerab passes. Now Genesis states that two *Cherubim* (Akkadian *Karubo*) with flaming swords were put at the eastern entrance to the Garden to stop attempts to enter it. This suggests that the Khunjerab pass was the exit gate, since it lies east of the Mintaka and the Kilik and is actually reached by taking an easterly branch of the Hunza river. This argument can be reinforced on linguistic ground by the analogy between the words CHERUBIM = KRB with JRB = GRB = KRB in the name of the pass, where we have deleted the first syllable Khun. The linguistic reason can be further reinforced if KHUN, which in ancient Turkish means Sun also as a divinity, can be attached with this meaning. Local tradition among the Hunza claims that the valley was settled by soldiers escaped from the army of Alexander the Great. Alexander army was enriched by soldiers of different nationality from the conquered or visited peoples. Alexander’s dominions extended to the Jaxartes (Syr Darya) river, bordering on Turkish speaking tribes. Moreover the Khunjerab pass leads into a part of Asia (Sarikol) where Turkish speaking people have lived since a long time. Thus it may not be farfetched in a Turkish connection to interpret Khunjerab as (the pass of the) *Sun-like shining Cherubims*.

If our interpretation of the words Khunjerab and Amu Darya is correct, then we have the following guess of the route taken by Adam and Eve after expulsion from the Garden:

- First north-eastwards to the Khunjerab pass (elevation 4934, reduced to 4602 via the modern road), following the Khunjerab branch of the high Hunza river; notice that this is the route taken by the modern Karakorum Highway

- Then near present Pisali and Ajekobai, elevation circa 4000 m, westwards following the Minteke river, entering Wakhan by present Vahir Lo pass, 4827 m, also on one of the branches of the Southern Silk Road, probably the one used by Marco Polo
- Then basically following the Gihon river, until it entered the Turanian plain. Finally, settling near historical Amu/Amol.

Thus Adam was expelled in the direction of the setting Sun. He settled near the great inner sea comprising Caspian and Aral, leaving the now distant Eden in the direction of the rising Sun. To face the rising Sun then meant to face the lost Eden. *Qadim* means “in front”, *Qedem* means “east”, in Hebrew, with *edem* intriguingly close to *eden*. Thus we infer that the “positivity” of the rising point of the Sun may have a justification in the memory of the actual place that was located there. Thus the word “to orientate himself” may relate to finding the direction where Eden was. Doing special acts, like prayer, by facing a special direction, is a feature well known in human experience, most notably in the facing of the Mecca that is required to Muslims (a decision taken by Muhammad after a period of uncertainty, whether it should be Mecca or Jerusalem to be faced) .

Traditions claim that Adam did several things after his initial settling at the exit of the mountains. Apart from fathering, in addition to Cain and Abel, 33 more sons and 23 daughters, as stated by Josephus in his *Antiquities of the Jews* (but other traditions have other numbers; e.g. Al Tabari [56], gives him 120 sons), he is said to have travelled widely, reaching in particular Palestine, Arabia and Sri Lanka. In view of his long life and the lack of burocratical constraints to travelling those times, such travels might have been possible.... It is also claimed more specifically that he founded the first sacred places of prayer in Jerusalem (possibly where Abraham stopped to be blessed by Melchisedek), see Grierson and Munro-Hay [37], and in Mecca. see Boubakeur [38]. It appears natural that people in the Middle East took these closer places as points “to face”, when the precise location of Eden was lost with the passing of millennia.

We conclude this section with two more observations, that give a clue to explain two special features of Hinduism, the religion that has kept more than any other archaic elements: vegetarianism and the veneration of cows.

We have already observed that Hebrew legends claim that a law was given in the Garden against the killing of animals, the spilling of blood. From the Genesis tale, it appears that Cain was following such a law, while Abel did not: he had domesticated sheep and had overcome the prohibition of killing animals, perhaps via a reinterpretation of the law: it was legal to kill if no blood was spilled on earth, hence e.g. by cutting the throat and collecting the blood. We may see here the ritual way of killing that is practiced by Hebrews and Arabs till our time (also the traditional way of the Mongols for killing avoids blood spilling: a cut in the fat belly, the hand inserted to quickly remove the heart). One wonders if the killing of Abel was not possibly an “experiment” by Cain to the validity of human sacrifice, that originated the tradition of sacrificing the (first born) son, applied until Abraham times and even till later times in several cultures. In conclusion we may see in the Abel story the attempt to reinterpret a law beyond the first literal meaning. This law however has been strictly observed to the letter by Hinduism.

The sacred role of cows in India has always been puzzling for persons of other cultures. In his book on Hinduism, Gandhi claims that the reason for the special respect of cows stems from the fact that cows helped man at a difficult time, albeit he does not specify how and when. Here we offer an explanation in the context of Adam expulsion from the

Garden. The presence of a special type of cows in the Hunza valley, well adapted to climbing steep slopes and to carrying loads, suggests that Adam was allowed to take a number of them when he was expelled. They were probably loaded with dried fruits, nuts and seeds. Thus he and Eve were indebted to them for a possible crucial help received during their difficult trek to the Turanian plain. Maybe also seeds from the Garden were reimplanted in the new settlement. If this scenario is correct, then it is simply wonderful that Hinduism has preserved the memory of this event by respecting the life of cows till our times.

9. The land of Nod

Genesis states that after killing Abel, Cain had to move to the land of Nod, east of Eden. He had a special sign on his body, that was presumably transmitted to his descendants. Agriculture, city building and metallurgy were developed by his descendants, before the Flood.

The land of Nod was interpreted in Talmudic sources as the “land of wandering, of nomadism”. Now east of Eden, or more precisely north-east, we have the huge grasslands of the Tibetan plateau, Mongolia, Xinjiang. It is therefore an educated guess that Cain reentered the Tarim basin and that his descendants spread around this huge area. Most of them became shepherds, domesticating yaks and horses and camels in addition to sheep, part practiced agriculture, taking advantage of the very likely presence of a large sweet lake in the Takla Makan – Lob Nor depression, whose existence, we noticed before, has been determined only very recently. The fact that this lake was subject to a drying up process, hence to a shrinking of his surface, most probably became a stimulant to develop technological innovations, leading to that sophisticated civilization quoted in the Bible, whose traces only now appear in that essentially still unexplored sandy desert.

If we can consider the Mongols as the closest descendants of Cain, then perhaps the “sign” given to Cain can be identified with the so called *Mongolian spot* with which many of the Mongols are born. It is a blue spot on the skin, usually at the base of the spine, that disappears after a few months (but Gengis Khan had it on a hand for all his life). Quite curiously, blue is the color of the lapislazuli, the sacred stone uniquely mined in Badakshan, the first land allowed to Cain.

10. Reinterpreting the swastika and other tales

In the context of our identification of Eden, here we propose a new interpretation of the meaning of the swastika, of the ritual choices between left and right, and, see next section, of the names of the cardinal directions in the Germanic related languages.

The swastika is a pictogram widely spread through Asia and Europe, especially common in indoeuropean cultures, but also documented, for instance in Tell Bakun in Iran [39], for the fourth millennium BC, well before the arrival of the Aryans. It is usually interpreted as a solar symbol, the center being the Sun, with 4 rays. But why 4 and why there are two types of swastika, one pointing to a clockwise rotation, one to a counterclockwise?

We give the following alternative explanation:

- **The central point is not the Sun, but is a representation of the Mountain of Eden**
- **The four rays are the four rivers coming out of the Mountain of Eden**
- **The rotation sense preserves a memory of the direction taken by the descendants of Adam when they moved away from the first settlement (Amu/Amol) where Adam stayed when reaching the Turanian plain. They couldn't go east, which was the place allotted to Cain. They couldn't go west, since there was a great sea, the original Amu Darya. So they could go either north or south. Going north they would have Eden on their right, thereby describing, at least initially, a rightwards, clockwise movement. The opposite if going south. Thus, in our interpretation, the swastika is a symbol embedding both the essential geographical information on Eden and a memory of the first decision of resettling taken by Adam's descendants. A very sacred memory, indeed.**

By a similar reasoning we can explain why many people would traditionally move beyond a sacred object by keeping it either on their right or on their left. For instance, Induists and Buddhists (but Buddhism can certainly be seen as just a variant of Hinduism, as was Gandhi's opinion) move beyond a sacred monument keeping it on their right; if they have to circle it, as done in several ceremonies (including the circling of the sacred Kailas mountain) they do it in a clockwise fashion, which is the sense of the swastika used by them, so keeping it on their right. The opposite is practiced by the Bon (those following the ancient pre-buddhist religion in Tibet, whose origin is to be looked outside of Tibet, according to Hummel [28, 32]), whose swastika is anticlockwise, and, e.g., by the Arabs.

We may also give a natural explanation why the left side is considered inferior to the right side in the western traditions, while the opposite is true for the Chinese. If one looks towards Eden from western Asia, then Kush is seen on the left of Havilah, and if Kush was the place of the killing of Abel then a negative connotation would be naturally associated to it. The opposite is the case when Eden is looked at from eastern Asia.

11. A proposed origin of the names of the cardinal directions

Here we give an Eden related explanation of the names of the cardinal directions in Germanic related languages:

- **East, German OESTEN: dropping the reinforcing S, we get the two consonants T N, retrieving, with the acceptable substitution of the dental T with D, the consonantical spelling of Eden. Thus we suggest *east = towards Eden***
- **West, German WESTEN: we can relate W = V with the B in Latin *ab*, English *away*. Thus we suggest *west = away from Eden***
- **North, German NORDEN: this we relate to Nod, the land of wandering, that extends both east but also north of Eden, comprising in fact the huge part of Asia between the boreal forests and the great chain of mountains from Caucasus to Himalaya**
- **South, SUEDEN: in S D we see the consonantic roots of the river Sindh, Sundh, the Indus, where Pishon and NHR PRT send their waters, the river of the lion, as we claimed before. Thus south should refer to the territory south of Eden, the Indus basin, and India for extension. Since Sindh, Sundh (Tibetan Senge) mean as we have argued *lion*, then south is the place of the lion, the place where lies Sindhu=India.**

12. Who was Adam

If our identification of Eden is correct, then the survival of both linguistic and geographical information till the time when Genesis was composed (circa 1500 BC if the author was Moses and if Velikovsky's dating is correct) and even to our times, in the names locally surviving, implies that the time passed since the described events took place cannot be extremely long, several millennia at most. It would indeed be difficult to accept that such information could have been preserved over much longer time spans.

There is now indications that Homo Sapiens developed circa 140.000-200.000 years ago in Africa; such evidence, albeit not final, is to a large extent based upon genetic analysis of the Y gene and the mitochondrial DNA plus the analysis of proteins and other components in human blood. Thus an Adam to be dated at circa 5500 BC on the basis of internal Biblical chronology cannot be the first Homo Sapiens. Now, Sumerian epics of creation speak of several episodes of "creation" that some authors, e.g. O' Brien [14, 53] or Sitchin [19, 20, 41], have recently interpreted in terms of hybridization between pre-existing humans and superior beings, possibly originating from other planets (hybridization between *Nephilim* and the *daughters of man* is also quoted in Genesis). One passage in a recently translated tablet (Pettinato, communication, Accademia dei Lincei Meeting, 2000) states that *Enki gave 108 essences to Inanna*. What the *essences* are is unclear, but could they refer to genetic material ?

So, while we cannot certainly date first Homo Sapiens at a time compatible with Biblical internal chronology, the idea that a final jump in human qualities happened at that time – and was due to some external interaction – is certainly worth of consideration. More about this can be found in Spedicato [51].

Appendix 1: on Kush, Hindukush and Exodus

Around the middle of the second millennium BC we have the great indoeuropean migrations from Northern Europe and north-western Asia to central-southern Europe, to Iran and to India. There is no agreement on the precise reasons of these migrations. We attribute them to catastrophic events that affected at least the Atlantic basin, resulting in the ten plagues of Egypt just before the Exodus and in severe tsunamis that devastated both coasts of atlantic America and Europe, documented by recent geological evidence, see Harris [42]. We believe that such tsunamis in particular devastated the northern European lowlands which had witnessed the great megalithic civilization and also deeply affected the low lands of the Sarmatian and Ob regions, starting a migration to the south. If Velikovsky's dating of the Exodus is correct, the event happened in the year 1447 BC, corresponding, in his revised chronology of Egypt, to the end of the 12th dynasty, just before the invasion of the Hyksos. We should also note that migration episodes may have happened also some time before, since the events that led to the migration of the Hebrews to Egypt when Joseph was vizir may also be related to a catastrophic event (from Baillie [16] we may take the date 1628 BC for the starting of the caresty in Egypt, an year associated to severe climatic crisis shown in the dendrochronological record).

In their migration towards India, the Hindi almost certainly took a route that brought them to the Turanian Mesopotamia, the region between the Syr Darya and the Amu Darya. If our guess that the indoeuropean migration was correlated with the Exodus and if Velikovsky is correct in putting Exodus just before the Hyksos invaded Egypt, then here we are for a very interesting story. Who were the Hyksos? This is the name given in Manetho, with the explanation that it meant “*the shephard people*”. In another work [26] we have argued that the name meant more correctly “*people of the horses*”, the name given popularly by agricultural or city people to invading horsemen from the steppes, as was the case in China (the Mongols were called in such a way). But the invaders were quoted in the few surviving Egyptian documents as *Amu* (a non Egyptian name, whose meaning is unknown by Egyptologists) and we believe they appear quoted in the Exodus book as *Amalek*, i. e. people of Amu/Amol. Amalek were met and defeated by Moses in the desert. We believe the defeated Amalek were just a small group of the invading Hyksos/Amu, that had departed from the main body of the invading horsemen, for scouring the desert, while the main body approached Egypt along the normal route, the so called Sea Way, along the Mediterranean sea. The name Amu suggests that these invaders came from Turan, the region of the Amu Darya. We can see two reasons behind their decision to leave the Amu Darya region towards Egypt:

- First, they knew they could not resist militarily the invading Hindi. The Hindi most probably had a superior weaponry, based not only upon bronze (bronze technology was extremely well developed in northern Europe in the first part of the second millennium BC, thanks to the mines of tin in Cornwall and of copper in Wales), but probably they also had iron weapons. It is indeed a recent finding that iron nodules, due to metabolic action of bacteria, were rather common in the marshes of northern Europe and western Siberia. Mining such nodules was relatively easy (which incidentally may give the true reasons why so many preserved bodies are found in terrains of northern Europe that were ancient marshes), providing a much better material for extracting iron than the usual iron ore. Iron nodules were also common in the Swedish lakes (there is still plenty of them; iron in Sweden is now mined from the lakes, no more from the mines in the northern region of Kiruna).
- Secondly, they might have had an account to settle with the Egyptians and specifically with Moses. We know that Moses first wife was from Kush, usually identified as Ethiopia, but in our approach to be identified with the land south of the Gihon, present Badakshan, land of the precious mines of lapis lazuli. Perhaps an Egyptian expedition with Moses in an important military role had helped the local people to repel an invasion by the Amu. Perhaps it was in this occasion that Moses, not yet forty, had taken a local wife, certainly from an important local family. Then the Amu, who had to leave a territory they could not defend, moved towards Egypt to avenge a previous defeat. Perhaps the family of Moses from Kush informed him of their pending arrival (special messengers could arrive much before the main body of the Amu). Then this would explain both the urge that Moses had to bring his people away and the unusual route he chose in the desert, not to escape a pursuing Pharaoh, who would have had no difficulty in tracing his whereabouts, but to avoid the invading body of the Amu. Finally, this would also explain the curious fact that no one knew where the tomb of Moses was while a tomb of Moses is presently located in Kashmir (near the hamlet of Booth, the village of Aham Sharif, the town of Bandipur), taken care by a family of Hebrews (the Wali Rishi) since some 90 generations according to the local tradition, see Kersten [46]. Moses in the end may have simply gone back to his family in the East.

So, we guess, the Hindi crossed the Amu territory without great difficulty, pointing towards the valley of the Indus and possibly also of the Helmand, both places of great and rich civilizations, promising a good plundering. To get there they had to cross the mountains of Afghanistan, the divide between the Amu Darya/Gihon and the Indus (the valley of the present Kabul river). Route to India could have been either the one presently followed by the road connecting Kunduz with Kabul, via the Salang Pass (3363m), in the west Hindukush range, or another one following the Daryz-ye-konce river, then entering the Kabul river basin (our Havilah) via the higher Anguran pass (4430m; also notice that this name Anguran is repeated in the part of Azerbaijani proposed by Rohl as Havilah); this second route would take the Hindi not far from the lapislazuli mines near Sar-e-Sang, some 80 km north of the Anguran pass. We guess the second route is the most likely to have been taken and we believe that the local people put a fierce resistance to the invading Hindi. An immense bloodshed must have been the outcome, with the Hindi probably unable to get hold of the mines, so immense that the original name Kush, related we claim to the killing of Abel, was changed to Hindukush, *the killing of the Hindi*. If our interpretation is correct, an echo of such events should still exist in the local lore of that part of Badakshan.

The name Kush survived clearly in the name of the Kushana, a people that was important in that general area some 2000 years ago, quoted also in the *Periplus Maris Erythraei*. The presence of a kingdom of Kush south of Egypt can be explained in our context. It is to be expected that some people on the way of the Hindi invasion escaped far away, beyond the sea being the best choice. They had to be small groups of people, belonging to the elite and with financial means. Trade by sea was already well developed between the Indus valley civilization (and the Sistan) and other destinations in the east and west, following the monsoons. Notice that the Indus local name was Sindh/Sundh and that Meluhha was the name of the northern part of the Indus valley. People must have escaped also from these regions, ending up either in Africa or in South-East Asia, depending on which month they took to sea, due to the alternate direction the monsoons flow in different times of the year. This probably explains why we find in Africa names like *Kush, Meluhha, Sudan* and in south-east Asia names like *Sunda/Sonda, Moluccas*. This was certainly not the first time that people from the Indus basin settled oversea, exploiting the monsoon driven currents. Indeed the name Kush is documented south of Egypt at least from the First Intermediate Period, another epoch of crisis and migrations. Similarly the Amu are as well documented from about that period, which suggests that incursions from Turan to Egypt took place along several centuries, events that we see paralleled in the incursions of the Xiongnu (Huns) from Zungaria into China, that also took place on the span of many centuries over similar distances of 3000-4000 km.

Appendix 2: Afghanistan, gateway to Eden

We close this essay with a note on the meaning of “Afghanistan”. Land of Afghani, of course. But what about Afghani? We see AF as a variant of AB, water, river, in Persian and Sanskrit (A in Sumerian). In Hebrew *gan* means *Garden (of Eden)*. Thus Afghanistan is the *land of the rivers from the Garden of Eden*, in perfect agreement with our recognition of the Gihon with the Pandji, the Pishon with the Yarkhun-Mastuj-Konar-Kabul, Kush and Avilah with the region between the two rivers.

It is ironical that the true meaning of Afghanistan (if our interpretation is correct) has been lost, as far as we are aware, also to the Afghani people. But the same is true also for the Italians, if the true origin of the name *Italia* is not from *vituli* (land of veals) as proposed by Varro, but from the Greek *Aithalia*, the *smoking land*, with reference to the volcanos located near the Italian coasts, a very pregnant name, for whose retrieval we are indebted to the insight of Felice Vinci [23].

We can finally notice that the term *gan* has survived, unnoticed, in other names of places or structures, e.g.:

- Tashkurgan, the gate (*tash*) to the mountains (*kur*) of the garden of eden (*gan*)
- Fergana, the fertile (*fer*, *PRT*) garden
- Kurgan (the tumulus over the grave of a warrior, in the Russian steppes): the “mountain” (*kur*) of the Garden of Eden (possibly a reference to the Rakaposhi; for more on the Rakaposhi see Spedicato [52]).

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The Tables

Six tables follow, namely:

Table 1: First page of Ferrarius Lexicon Geographicum, identifying Oxus with Gihon

Table 2: Iran/Turan page of the Robert de Vaugundy atlas, showing the river Gihon and the town Amou

Table 3: Central Asia map from Ptolemy atlas, quoted edition, showing a much greater Caspian Sea that incorporates Aral

Table 4: Map showing the mountain where Pamir, Hindukush and Karakorum join and wherefrom four great rivers originate, by us identified with the rivers quoted in Genesis

Table 5: Map of Hunza valley and accesses to Mintaka and Khunjerab passes

Table 6: Map of Hunza valley and the great mountains surrounding it in the south (culminating in the Karaposhi) and in the north (the Pasu Group). Notice that Karaposhi and the highest peak in the Pasu group lie almost exactly on the same meridian and have almost exactly the same height.

Table 7: Satellite photo of Central Asia















