

**PH.D. Gizo Vashakidze**

**THE PERSONAL TORNADO  
FOR  
PHARAOH'S SOUL**

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The book "The Personal Tornado for Pharaoh's Soul" was published in the Georgian language in 2003 and in the Russian language in 2004. The book had got reviews from the world-famous scientists (see the reviews on pages 66-71). The work explains the purpose of the pyramids. The ancient Egyptians by means of the white pyramid provoked the artificial emergence of tornado. They believed that tornado takes the Pharaoh's soul to the heaven. The tornado picture near the picture of a pyramid



has been found and decrypted in the pyramid texts. Historical and meteorological evidences, laboratory experiments are provided in this book proving our version.

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## **PURPOSE OF PYRAMIDS**

The Great Pyramid of Cheops is considered to be the first of the Seven Wonders of the World. The ancient manuscript about Seven Wonders of the World belongs to the Phoenician writer Antipatris (2<sup>nd</sup> century B.C.). The list included the following wonders:

**Great Pyramid of Giza**

**Hanging Gardens of Babylon**

**Statue of Zeus at Olympia**

**Temple of Artemis at Ephesus**

**Mausoleum in Halicarnassus**

**Colossus of Rhodes**

**Lighthouse of Alexandria**

The time has passed and today from Seven Wonders of the World only the first one – the pyramid has survived. The thinkers worldwide have continued to argue about the purpose of pyramids. At present this interest has intensified. Representatives of many nations have visited pyramids in order to study them. The mankind equipped with the updated means of research – the spacecraft, helicopters, ultraviolet rays, is trying to plumb the depth of the pyramid mystery. But pyramids hold off their mystery. The valid and non-valid books are created in many languages, articles are published, many versions and hypotheses are expressed. One human life is not enough for the comprehensive study of the materials accrued by the mankind in this issue. I would like to bring one version upheld by some scientists. They think that the pyramid was the observatory and the angle of slope of their walls served the astronomic purposes and specially pointed the North Star.

Another group of scientists think that version ungrounded because the planes on the pyramid top where the observatory should allegedly be located did not exist and the North star was absolutely in the another place during the construction of the pyramid. Some scientists provide their versions and other decline them. And there are a lot of such examples.

By lapse of time the numerical mystics has occurred round the pyramids. Some researchers are skeptical to the mystic comprehension of pyramids. Others think that the pyramids are simply the burial place for pharaohs and their hugeness and originality of the shape serves the exaltation and safe keeping of the pharaoh remains. In my opinion, they avoid the answer to the difficult problem because it is the fact that the question of purpose of pyramid is still unanswered.

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### ***How can this fact be explained?***

As it is known, the ancient Egyptian scientists were concurrently priests. They pursued science not only for solution of personal or everyday problems but for divine service as well. By this way, in the ancient times the religion and science united in one person. Now these two concepts are fully separated. May be this is the reason of absence of the answer to the question about the purpose of pyramids.

This work provides the following interpretation of the purpose of pyramid: the pyramid of white color, inherent, complete form with its parameters and color contributed to the uneven distribution of temperature on the earth surface (the cold center – the pyramid and warm surrounding). This distribution in case of other favorable climatic conditions provoked generation of tornado.

The subject described in the book encompassed different fields: Egyptology, linguistics, meteorology and theology. The phenomenon of tornado by itself gives the answer to dozens of questions accrued in the science. This fact bound those sciences in the single chain that is one of the obligatory terms of the true reasoning.

### ***Question: How did the ancient Egyptians call tornado?***

**The legend tells:** the remains of the deceased pharaoh were taken to the pyramid, where "Ka" left the pharaoh mummy. The ancient Egyptians believed that "Ka" is the twin of a human which left the body after the death and could move from this world to the other world. "Ka" escaped from the burial room and left for the top of the pyramid where the pharaohs' father – the solar deity Ra in its solar boat had waited for it. From that place "Ka" of the deceased pharaoh started its trip to the eternity.

In the meteorological part of our book we give the arguments that tornado descended from the sky to the pyramid top while the Egyptian legends tell that the deity Ra in his boat descended on the pyramid top. Therefore, we can state the following: what we are calling "tornado" was called by the ancient Egyptians as "Ra's boat". The different names are quite a regular phenomenon. Even in our times this meteorological phenomenon is called differently in different countries – tornado, whirl, sand pillar... It is not strange that this phenomenon was called by the ancient Egyptians of the name unknown to use – the Ra's boat...

## What can be the basis of calling tornado as the Ra's boat?



One of the obligatory conditions of generation of tornado is clouds. Clods make the round solar disk invisible. At that inside clods is generated an enormous, kind of divine, phenomenon having the form of a round disk or half-disk in the upper part (*Fig.1*). The ancient Egyptians could imagine that the solar disk descended on the earth enveloped in a cloud and from the cloud to the earth descended the visible phenomenon in kind of a pillar of fire which could lift (sucked in) to the heaven. May be this virtual image with such feature became the basis of why the Egyptians called tornado as the Ra's boat.

*Fig.1. Nebraska, June 24, 1830 (Oliver, 1931, fig.6).*

Let's follow the chronology of pyramid construction. As it has been mentioned above, the first stepped pyramid was erected for pharaoh Zoser. It is the first stone architectural monument in the world (*Fig. 2*). According to the Egyptian legend, Imhotep, who was the architect of Zoser's pyramid, is the founder of stone construction, the author of ancient science and education. Imhotep's wisdom revealed in the treatment of people from different illnesses. Due to this in the Ptolemy's époque he was ranked as the curing deity. Imhotep who held the post of the top official during the reign of pharaoh Zoser headed the construction of the pyramid – the pharaoh's burial place.



*Fig.2. Sakkara. Stepped pyramid of Zoser*

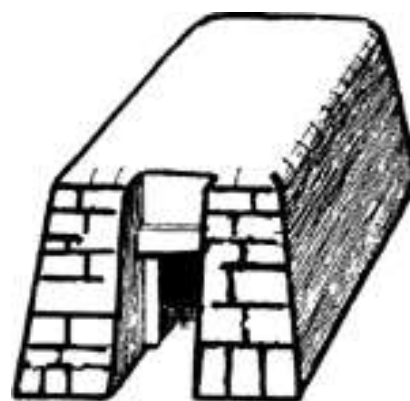
The uncommon thing was replacement of the traditional building materials – wooden beams and bricks with a new material – stone. We think that such replacement should be the result of the long-term evolution of construction. However, surprisingly, but neither in Egypt nor outside it a stone monument had been constructed before Imhotep.

We can ask, was the construction using stone the anonymous invention by Imhotep or there was an analogues according to which Imhotep made the decision on replacement of the traditional building materials – bricks and wooden beams with the stone cut from the rock?

It is quite obvious that within the construction of one object – the burial they has abandoned concurrently two traditions:

**First** – the form of traditional Egyptian burial - mastabah (*Fig. 3*) was replaced with the form of the stepped pyramid resembling a rock;

**Second** – the traditional building material – brick was replaced with a new material – stone cut from the rock.



*Fig. 3. Small Egyptian burial – mastabah*



As we see in both cases we meet the word "rock". This word can be used for description, characteristics of pyramids as they left the impression of rock and the majority of them were built of the rock stone. In my opinion, this phenomenon can be explained as follows; a pyramid as an analogue of the rock existing in the nature, that is the rock is a prototype of the architectural form of pyramid. Observation over the rock enabled to establish the reasons provoking generation of tornado as a result of which was erected the artificial rock, the pyramid.

After pharaoh Zoser up to pharaoh Snefru were built seven pyramids. Majority of them are seriously damaged. Only some of them have preserved one or two steps on the earth surface, but others have no ground part and are represented with the parts of foundation only.

The most interesting example of the change of the pyramid view is three pyramids of various form built by the architects of pharaoh Snefru. First of them which is located in Medum is the completion of the uncompleted pyramid of the previous pharaoh. The top of the pyramid is demolished. Two other which were intended for pharaoh Snefru are located near Dahshur. One of them is called "pink" due to the color of the facing stone. It is the pyramid of regular form. The wall slope angle is 43 degrees, the height – 99 meters. Two kilometers far from it is located one more pyramid of Snefru which is called "white" pyramid due to the white facing stone. It has the second name as well – the pyramid with double slope. The initial angle of its slope is 50 degrees, after the middle of its height the angle of slope becomes 43 degrees. The pyramid top comes short of some meters (*Fig. 4*). Notable is that round the pyramids are scattered a great quantity of stone blocks that makes the impression that they felt from the top of the pyramid. This has made the scientists to assume that the initial form of this pyramid was regular. i.e. the slope angle of sides from the bottom to the top was 50 degrees.

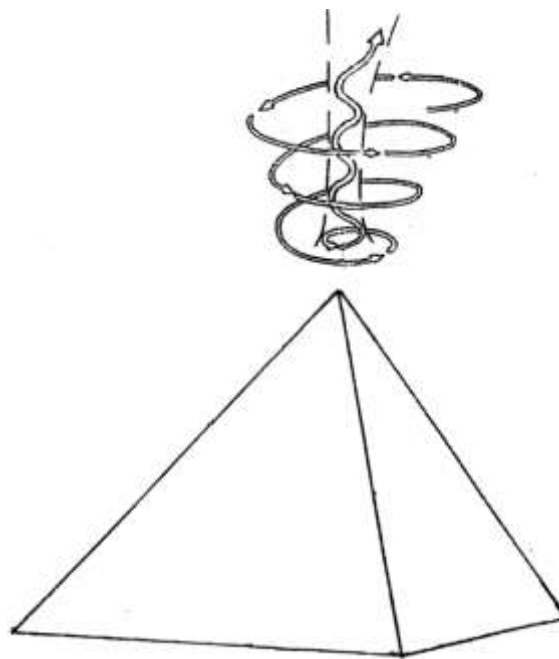
British physician Curt Mendelsohn expressed this opinion when he had calculated the number of deficient building blocks to get the upper part of the pyramid of regular form. This number coincided with the quantity of blocks scattered round the pyramids that has enabled him to conclude that the initial form of the pyramid was regular.

Initially the pyramid was double-inclined. If the pyramid had regular walls, in both variants the pyramid came short of the top. What could be the cause of top demolition?

Let's imagine that the initial form of the pyramid was regular. Whether tornado descended on the pyramid could change its form with its destructive force?



*Fig. 4. Dahshur. View on the white pyramid of pharaoh Snefru at present.*



*Fig. 5. Probable initial view of white pyramid of pharaoh Snefru.*

*Above the pyramid is shown the spiral movement of tornado.*

As we see, the present form is symmetrical to the central axis. To obtain a symmetrical figure we need the whirling effect. Let's bring the example of a turning machine. The figure worked on the machine is rotted. The touch of a blade decreases the figure but leaves it symmetrical to the central axis. The same result is obtained when the figure is fixed and blades are rotating. Therefore, we can conclude that the symmetry is produced under the effect of the torsional force. When we translate the word "whirling-rotating" into Spanish we get the word "tornado".

Tornado descends from the sky and, hence, the top of the pyramid could appear in the tornado column center. In such position the tornado by spiral air movement could make a strong destructive effect (*Fig.5*).

This version of demolition may be considered only when it is finally proven that the initial form of this pyramid was really straight.

Even if the present form is the initial one (*Fig. 4*), i.e. the blocks of the top of this pyramid are not destroyed this does not exclude the probability of the fact that tornado could descend on this pyramid. There are many small tornadoes which cannot destroy large buildings. But for the religious needs of the Egyptians the fact of descending of the Ra's boat on the pyramid but not the devastating force could be quite sufficient.

We can say for sure about the form of this pyramid that the facing stones of the upper part are lacking. May be the alleged tornado has thrown them on the ground?

After pharaoh Snefru the throne was held by his son – pharaoh Cheops. In the suburbs of Cairo Cheops built the largest pyramid which became the basis for construction of the largest complex of sepulchers. The pyramids located in this complex are known as the Giza pyramids. Or three pyramids erected by pharaoh Snefru Cheops repeated the main parameters of the white pyramid, namely:

Angle of slope – 50 degrees;

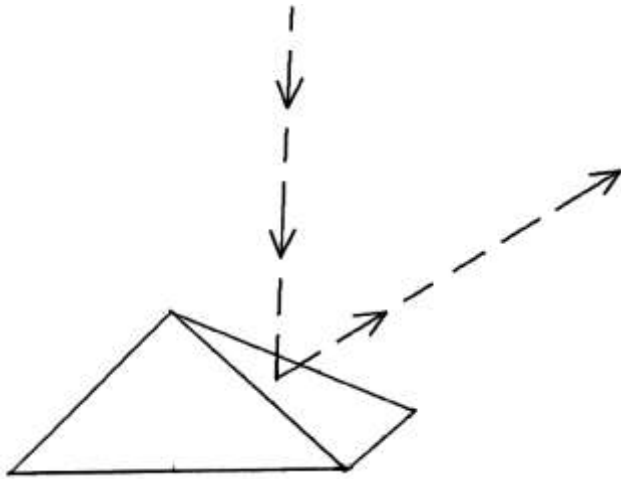
Facing color – white.

### ***What do those parameters mean?***

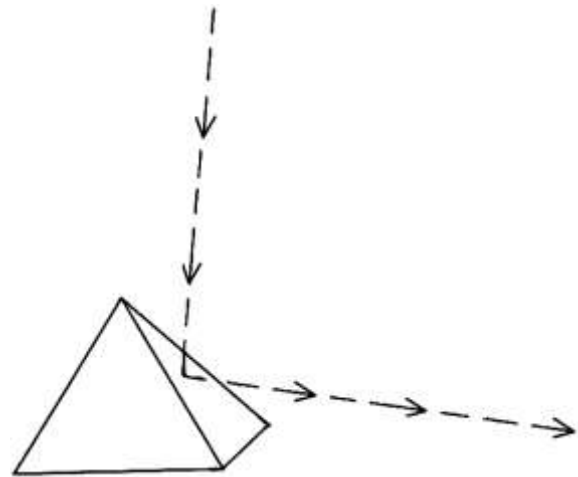
Their purpose is just simple. It is known that the white color reflects solar rays best of all, the more so that the Egyptian builders highly polished the facing stones of the pyramid.

This white pyramid reflected solar rays from morning till evening. Let's see what is the correlation between the afternoon solar rays and the pyramid wall slope angle.

Let's imagine a pyramid the angle of slope of walls of which is less than 45 degrees. Majority of afternoon solar rays felt on the pyramid with such slope will be scattered in the space (*Fig. 6*). The angle of slope of the Cheops' pyramid was 50 degrees whereby the majority of the afternoon solar rays scattered round the pyramid area (*Fig. 7*) where the radiation of the reflected ray added to the radiation of rays felt directly on the same area. This created the accumulated radiation round the pyramid that in turn rather increased the soil temperature and consequently, the air temperature. At that the pyramid walls did not heat because of reflection of rays and, hence, the air temperature above the pyramid did not increase. This process results in the huge temperature swings: the cold center (pyramid), warm surrounding. Subject to the foresaid we can state that the white color of the pyramid facing and the wall slope angle served one purpose – they created the conditions for the uneven distribution of temperature. The hugest temperature swings should be after the accumulation radiation, i.e. past noon.

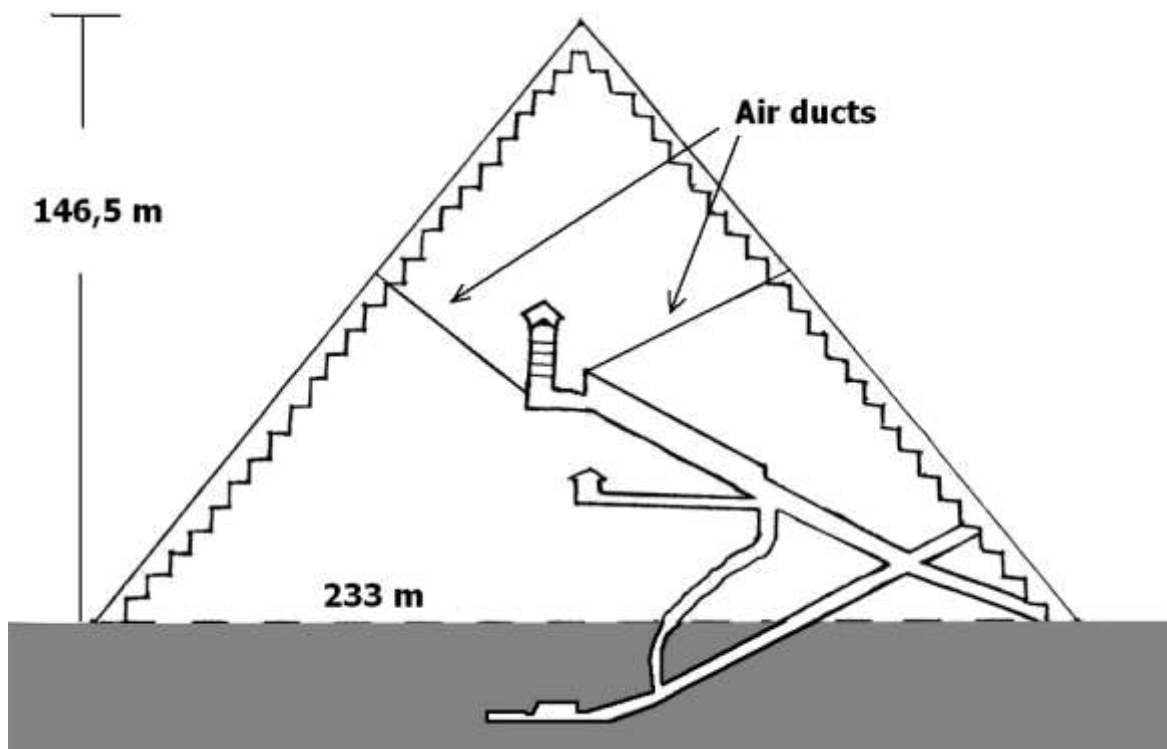


*Fig. 6. The afternoon sun ray reflected from the wall with the slope less than 45°.*



*Fig. 7. The afternoon sun ray reflected from the wall with the slope more than 45°.*

In the Cheops' pyramid along with the repetition of the main parameters of the Snefru's pyramid are observed the facts of improvement of the existing model. In particular, the height of the pyramid increased – 146.5 meters, the sarcophagus room inside the pyramid is placed at the height of 45 meters, from which place to the external walls of the pyramid are made two air ducts (*Fig. 8.*)



*Fig. 8. Section of Pharaoh Cheops' pyramid.*

### ***Why did Cheops need those changes?***

Let's consider the issue in the context of the proposed theory. Tornado, i.e. the Ra's boat descended from the sky to the pyramid top. If we assume this we will be able to explain the wish to place the sarcophagus room closer to the top of pyramid. This can also explain the necessity of making air ducts from the sarcophagus room to the external walls. In my opinion those holes were made to facilitate the exit of the pharaoh's soul from the pyramid to the top of it where the soul should meet the Ra's boat descended from the sky.

Cheops' pyramid is lacking 9 meters of the top. On its place we see the flat ground having the size 10x10 meters. To fill this space they should require hundreds of blocks with the total weight of thousands tons.

### ***Why the pyramid has no top?***

Maybe the Ra's boat – tornado descended on it and with the inherent force and rotating movement created the symmetrical form? Can we explain this otherwise or not?

In the 1<sup>st</sup> century B.C. the historian Diodorus fixed the absence of the top of the Cheops' pyramid. At that time the white stone facing of the pyramid still existed that made impossible for a man to climb the wall with the 50-degrees slope in order to demolish the top.

There is another version. In particular, some centuries ago the Cairo residents remove the stones for the Cheops' pyramid. There is also the information about the fact that the pyramid top was demolished by an earthquake.

### ***How can we explain such contradictory information?***

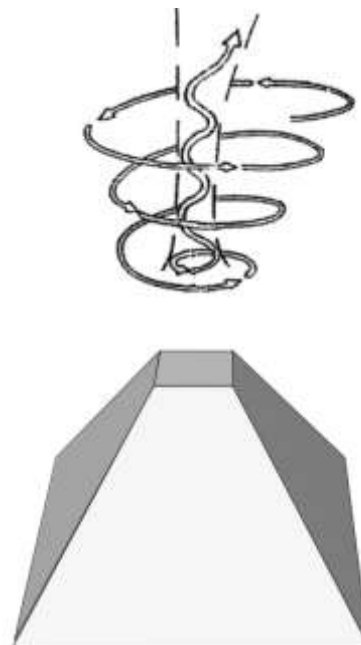
First, when we say that the stones were removed from the pyramid by the population we shall note that even the facing stones have such weight and such size that a man could use for construction of houses. The buildings of Cairo still keep facing stones from the pyramids of Cheops, Chefred... (Note: The original text has a typo 'Chefred' which has been corrected to 'Chefred' based on the context of the document).

Second, we shall note that the Cheops' pyramid is lacking 9 meters. Let's assume that Diodorus saw the pyramid with the absent 6 meters of height while the remained 3 meters were lost by the pyramid as a result of the human-caused factors or the earthquake. These facts can coexist not excluding each other.

Noteworthy is the following fact. The form of the truncated pyramid seen by Diodorus is identical to one of the Egyptian hieroglyphs



. We can assume that the Cheops pyramid had the truncated form in the ancient times independently from a main. The symmetry of the form of the demolished pyramid suggests the effect of tornado from its top (*Fig. 9*).



*Fig. 9. The cut pyramid form with spiral air movement on it.*

After Cheops the pharaoh's throne was held by his brother Chefren. He mainly repeated the successful models of the burials of his father and brother. Height – 139 meters; Wall slope – 50 degrees; Facing stone color – white. Round the Chefren's pyramid we can see the traces of a canal from the river Nile (*Fig. 10*). In the ancient time there were other pyramids standing in the artificial lake. This data can be found in the second book "Stories" by Herodotus?

### ***What is the purpose of the canal round the pyramid?***

It is known that the tornado occurs only in a cloudy weather. A cloud generates from a wet air, air penetrates with the wet from water and water requires a reservoir – the canal. Therefore, the existence of the canal round the pyramid shows once more the probable interrelation between the tornado and pyramid.

***We can ask: if the wet evaporated from the canal is enough to form clouds generating tornado?***

*Fig. 10. Giza. Pharaoh Chefren's pyramid.*



Clouds generating tornado are formed without canals also – from the wet air arising from rivers, lakes, seas and oceans. Of course, the water canal surrounding the pyramid could not form independently the clouds generating tornado.

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But this canal, in turn, promoted formation of the conforming microclimate round the pyramid. Here the most important is the idea of architects to achieve the highest humidity in the air surrounding the pyramid.

The top of this pyramid is safe, and blocks and facing stones are safe too (as we have mentioned above, the lower part of the facing stones were removed by the Cairo residents). What is the cause of it? Why the top is safe? We have touched this issue above when we have considered the form of the white pyramid Snefru. Let's return to this once more.

In our opinion, the purpose of the Egyptian's was not only demolition of the pyramid top but the wish to blow up tornado. These are quite different purposes. If the Cheops' pyramid was hit by the most powerful tornado which had destroyed its top, this does not mean that other pyramids should cause tornado of the same power. The Egyptians could not determine the strength of the expected tornado as there are weak and powerful tornados and their strength is determined by the accompanied meteorological conditions. In our époque it happened so that tornado used to take people and cattle and dropped them in some meters. Tornado of such strength could not demolish the many-ton blocks of Chefren's pyramid. There are tornados which start with a weak destructive force but in some hours they gain the enormous force. It is known that the tornado descended from the sky is able to move horizontally. So it is very important to know at what stage of development tornado was on the top of pyramid. If it attained to the peak of its strength, we can assume demolishment of the top of pyramid. If tornado was on the top of pyramid in its weak stage, and then its horizontal movement began it could not demolish the many-ton top of the pyramid. Therefore, we can say that the integrity of the Chefren's pyramid does not mean that there was no tornado on its top ever. We can also assume that some tornados descended on the top of this pyramid were weak or they touch the earth near the pyramid. At that the top of Chefren's pyramid remained safe.

We can ask a question that contradicts the proposed theory. It is as follows: tornado is a meteorological phenomenon with the large destructive force and the pharaoh's mummy as it is known should be accommodated in a safe and calm place of eternal rest. So, how can we explain the coexistence of the place doomed to destruction with a safe peaceful place?

The available facts about the pyramid evidence that the sarcophagus room was a temporary sanctum for the pharaoh's remains, i.e. the pharaoh's remains rested in the sarcophagus room before the first, obligatory tornado.

It is known what a powerful meteorological phenomenon is tornado. The risk of placement of the pharaoh's remains before the first tornado was obligatory and justified as it should result in the cherished dream – ascending of the pharaoh's soul to the Ra deity. The further risk would be senseless and dangerous. In our opinion, after the first tornado the pharaoh's remains were taken from the sarcophagus room and placed in a safer place.

The sarcophagus rooms built for the remains of Cheops and Chefren leave the impression of a temporary residence as they are not faced, nor gild and decorated as it is usual at the places of eternal burial of pharaohs. For example we can name the tomb of Tutankhamen which was decorated and gild from bottom to top and was made in the depth of rock.

In the room of the pyramid where the Cheops' remains rested was found no sarcophagus cover.

According to our theory this is explained as follows.

The closed sarcophagus may be an unnecessary obstacle on the way of meeting of the soul and the Ra's boat. After the first tornado the remains were taken from the sarcophagus. The empty sarcophagus needed no cover. So, the sarcophagus cover was functionless. Following this logics, the actions of Egyptians were justified: the sarcophagus cover was not cut and was not brought to the pharaoh's rest room when the pyramid was built.

The fact is that nobody has seen Cheops' remains, there are no evidences of the eternal existence of his remains in the sarcophagus room. To date it is unknown where Cheops remains have been taken. Some researchers suggest that the room where Cheops' remains are placed is inside the pyramid. If Cheops' remains are in the pyramid they should be buried very deep so that the repeated tornado would not disturb their rest.

Lately some scientists have expressed the opinion that the large pyramid was not intended for burial of the pharaoh. They bring the following three arguments to prove this:

1. Contrary to the traditional practice of that time the sarcophagus room has no artistic decoration.
2. The pharaoh's sarcophagus was worked coarsely, i.e. was not finished, has no cover.
3. And, at last, the pyramid has two narrow ducts through which air from the outer space penetrated to the pharaoh's burial room. But dead bodies need no air.

As we see this issue is not quite clear. From the one side there was the 30-year period of construction of pyramid, enormous expenses, and efforts of great number of builders. But some scientists think that



the pharaoh's remains had not been ever there. As if we agree with them the reason of construction of pyramid is really unclear.

Our work provides a clear answer to this question and one can understand the sense, idea and necessity of construction of the pyramid and at that the unusual look of the sarcophagus can be explained. In particular, the sarcophagus room was the temporary burial of the pharaoh until the first tornado after which the ceremony of transportation of the remains to another safer place was carried out. Such course of events enables to formulate the following challenges: the sarcophagus room in the pyramid was not decorated because it was the temporary but not constant place for pharaoh's remains; such temporary residence of pharaoh's remains in the sarcophagus is the reason of absence of the functionless cover of the sarcophagus; two ducts from the sarcophagus room to outside wall of the pyramid are made to facilitate the exit of the soul from the pyramid.

After Chefren the throne was held by the son of pharaoh Cheops – Menkaure who built his pyramid in vicinity of Gaza, near the burials of his father and uncle. Unlike the pyramids of his predecessors Menkaure's pyramid is not big. As the scientists have established it was faced with red stone.

Why was the pyramid faced with red stone? To deepen in the peripeteia of construction of this pyramid we would like to bring an extract describing the tragic life of pharaoh Menkaure (Mykerinos):<sup>1</sup>

*“After the misfortune of his daughter it happened, they said, secondly to this king as follows: -- An oracle came to him from the city of Buto, saying that he was destined to live but six years more, in the seventh year to end his life: and he being indignant at it sent to the Oracle a reproach against the god, making complaint in reply that whereas his father and uncle, who had shut up the temples and had not only not remembered the gods, but also had been destroyers of men, had lived for a long time, he himself, who practiced piety, was destined to end his life so soon: and from the Oracle there came a second message, which said that it was for this very cause that he was bringing his life to a swift close; for he had not done that which it was appointed for him to do, since it was destined that Egypt should suffer evils for a hundred and fifty years, and the two kings who had risen before him had perceived this, but he had not. Mykerinos having heard this, and considering that this sentence had been passed upon him beyond recall, procured many lamps, and whenever night came on he lighted these and began to drink and take his pleasure, ceasing neither by day nor by night; and he went about to the fen-country and to the woods and wherever he heard there were the most suitable places for enjoyment. This he devised (having a mind to prove that the Oracle spoke falsely) in order that he might have twelve years of life instead of six, the nights being turned into days.”*

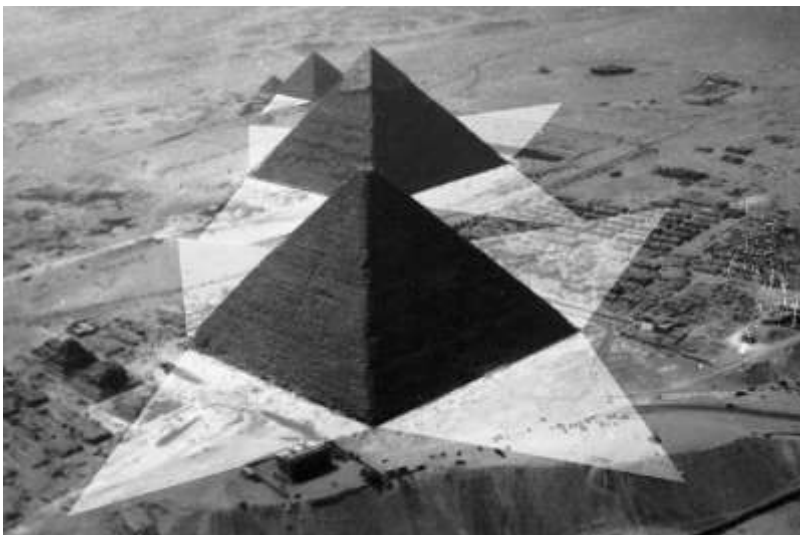
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Some people dismiss such ancient manuscripts. Let's address to the opinion of those researchers who considered the manuscript as the reliable source and started to study Menkaure's pyramid.

The research was successful and proved the historical sources. It was found that before the middle of the height of pyramid the stones are well cut and after the middle of it – are cut coarsely. The scientists established that at first the builders worked slowly but in the middle of their work there appeared some reason that made them hurry and thus deteriorate the quality of stone working. The scientists connected the accelerated construction of the pyramid with the early death of Menkaure as it was mentioned in the historic records.

After the early death of Menkaure, the completion of construction of the sixty-six meter height pyramid should take much time. All those years the remains of Menkaure could not be placed in the pyramid under construction and should be stored in a temporary place somewhere. "Ka" of Menkaure who had died some years ago should leave his body. In this case it was senseless to call the Ra's boat for the body without "Ka". In order the pyramid not to call the Ra's boat, i.e. tornado, the architects should make changes in the construction. They could select red stone for the external facing which does not reflect intensively the solar rays whereby they heat by themselves and transmit heat to the air touching them. This fact impeded the uneven distribution of temperature (the cold center, warm surrounding) and, hence, weakened the cause of generation of tornado. As it is known the architects raised such design, due to which the red pyramid looks more peacefully.

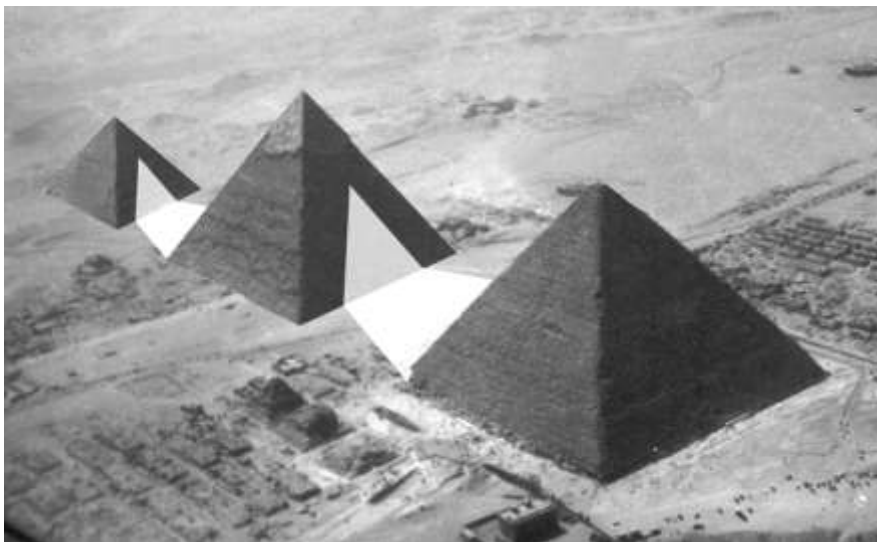
It is interesting to look over Giza pyramids: of Cheops, Chefren and Menkaure (*Fig. 11*). Those pyramids turn to each other with edges. The afternoon sun rays reflected from the pyramid walls scatter on the earth surface and do not illuminate neighboring pyramids. For this reason all three pyramids do not warm and keep coolness. Let's imagine that those pyramids were directed to each other with not edges but with their sides (*Fig. 12*). In such case the afternoon sun rays reflected from one pyramid scatter on the walls of another pyramid and warm it that prevents to keep coolness all over the pyramid space. Therefore, we can say that the architects took care of this fact and found the optimal dislocation of Giza pyramids where nothing prevented the uneven distribution of temperature.



*Fig. 11. Giza pyramids (of Cheops, Chefren, Menkaure). In this figure we have conditionally designated the reflected rays of the afternoon sun.*

*Ph. D. Gizo Vashakidze "The Personal Tornado for Pharaoh's Soul"*

*Fig.12. Picture obtained with the artificial displacement of Giza pyramids.*



## CLIMATE CHANGES IN EGYPT

Today the pyramids do not cause tornados as the safety of the white stone facing is deteriorated. For this reason the intensity of reflection of solar rays is weakened and uneven distribution of temperature does not take place. At that the climate in Egypt which had played the top role in the process of formation of tornado had changed.

The physical nature of formation of tornado has not been studied to the end. There are many various theories on this issue. However, none of them is universally recognized and providing answers to all questions. According to the materials provided in the references, tornados most often generate in thunderstorm clouds above the water surface (of ocean, lake, sea, water reservoir) where the descending quick flows of wet air saturate the thunderstorm clouds with great quantity of wet.

In order to ground the fact of generation of tornados in the ancient Egypt we shall get known if the climate in that country could cause such phenomenon.

The historical sources contain the conclusive evidences that far back in the past, during the period of pyramid construction the climate in Egypt was much softer and wetter than now. This fact is proved by many scientific observations and researches. Let's bring the opinion of outstanding scientists A. S. Monin and Y. A. Shishkov about this:<sup>2</sup>

*“The existence of climatic optimum is proved by the paleontological data from Kenya, Zambia and other countries of the equatorial Africa. In the central Sahara are discovered the signs of habitation of hippopotami and crocodiles and in Holocene sediments are found freshwater mollusks. The recent*

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*research of the paleolevels of African lakes using the radiocarbon analysis has shown that within the Holocene throughout Africa from the Northern to Southern tropic the levels were significantly higher and dry hollows and buried channels were filled with water. The radiocarbon dating of organic remains found on the shores of lakes or lake basins evidences about the particular high stand of levels of African lakes during the millennium 9-8 millennia years ago that was the wettest one within the total period from the maximum glaciation of Wurm until present. According to those data the assessment of precipitation has given 165% of the modern level for the East Africa and 200-400% and more for Sudan and Mauritania.”*

The foresaid allows to conclude that in the ancient Egypt the quantity of precipitation was much more than today. This fact is proved by the availability of large water reservoirs. Consequently, the quantity of evaporation was larger too as a result of which the air was saturated with the large wet storage. And this is, as we have mentioned above not once, one of the obligatory conditions of generation of tornado.

The photo materials from the space confirm the availability of large water storage in the ancient Egypt. In our days the Aswan Dam was built on the river Nile. In the photo made from the space we can see the river Nile bed which is located southwards from the dam (*Fig. 13*). After construction of the dam in the river heads the water began to accumulate, its flows began to fill the river-like channels located on the right and left shores of the Nile. Those coulees evidence the existence of rivers flowed in the Nile in the ancient times.



***Fig. 13. River Nile southwards the Aswan Dam. The photo made from the space.***

In addition to the contemporary researches and observations there are many records of eyewitnesses evidencing the abundance of water surface on the territory of the ancient Egypt. Below are the records made by Herodotus<sup>3</sup> about the ancient Egypt (5<sup>th</sup> century B.C.):

*“When the Nile comes over the land, the cities alone are seen rising above the water, resembling more nearly than anything else the islands in the Aegean sea; for the rest of Egypt becomes a sea and the cities alone rise above water. Accordingly, whenever this happens, they pass by water not now by the channels of the river but over the midst of the plain: for example, as one sails up from Naucratis to Memphis the passage is then close by the pyramids, whereas the usual passage is not the same even here, but goes by the point of the Delta and the city of Kercasoros; while if you sail over the plain to Naucratis from the sea and from Canobos, you will go by Anthylla and the city called after Archander.”*

Because of strong heat the air above Egypt flooded with water was intensively saturated with wet that, in turn, created the favorable conditions for generation of tornado.

The flood in Egypt lasted about four months. We cannot exclude that the remains of pharaoh Cheops were placed in the pyramid just in this period. This is evidenced by the fact of discovery by the researchers of the well preserved pharaoh's ship in the special shelter near the pyramid. The scientists think that the remains of Cheops were taken in this ship from the palace to the pyramid. There are the pictures of the ancient Egyptian artists where the transportation of the pharaoh's remains on the ship is represented (*Fig. 14*).



Historically it is known that after the flood the hot sun of Egypt failed to dry the soil saturated with water until the next flood. Therefore, both in the period of flood and in season water constantly evaporated from the soil and saturated air with wet. Hence, generation of tornado was possible in any season.

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The frequency of cases of generation of tornado rather promoted the observation of this phenomenon by Egyptian scientists. In particular, "at the approaches of the Libyan mountain massive near the city of Thebes (Luxor) elevates the pyramid-shaped pinnacle "Horn".<sup>4</sup>

During the flood this mountain could come into view as an island. The solar rays reflected from the rock slopes initiate the additional heating of the surrounding water. In virtue of this the rock preserves lower temperature than the environment. As it is known the period of cooling begins with the clouding. The rock cools much quicker than water. In this period the unevenness of distribution of temperature between water and rock attains to its peak. Therefore, the rock surrounded with water could naturally create the unevenness of distribution of temperature promoting generation of tornado in the following order: the cold center (rock) and warm environment (water around. We cannot exclude that the pyramid-shaped rock "horn" was the object of observation for Egyptian meteorologists and then the shape of the same rock influenced on the creation of the pyramid itself.

### **Biblical Information**

The Book of Job, Chapter 38 (1-2)

**"Then the LORD answered Job out of the whirlwind, and said, Who is this that darkeneth counsel by words without knowledge?"**

As we can see from the Bible , the God very often applies to His chosen prophets from the element, cloud, whirlwind, whereupon the prophets transmit the God's words to the Jews, Egyptians and other peoples.

In the ancient time the people sought practical, religious, mystical interpretation in all natural phenomena. Tornado is one of such acts of God. Its effect has been always visually very impressive. Tornado takes everything it meets on its way, from the earth to the sky, and after some time all objects and bodies are returned back to the earth.

Is it true that tornado returns everything back to the earth, or there is something it leaves on the heaven?

Such question could be generated in the Egyptians many years ago, before they began to build pyramids. Apart from buildings and objects the tornado takes to the sky people or animate objects as

well, and after several hundred meters flight the captured people return to the earth from the sky, but most of them are dead. Please note: the tornado captures and takes up "animated" objects and returns "inanimate" ones. It is as if the soul of a captured human remains on the sky... May be just for this effect the tornado was attached the purpose of taking souls to the heaven.

The fact that the Ra's rider was observed on a pharaoh's pyramid could have a great effect on the population. Such fact would enforce the strength of the pharaoh's dynasty because the population would see that the God Ra sent the "phenomenon" to His son, the pharaoh, thus making the pharaoh equal to the God. This was quite a successful politics of the pharaoh dynasty. The pharaohs equated to the God ruled Egypt for many years.

### **THE SOUL AS EGYPTIANS IMAGINED IT**

The Egyptians differentiated material and immaterial in a human. They considered material the bodily nature of a human and immaterial – what we call the soul. According to the notion of the Egyptians, only the material part dies and immaterial part of a human – the soul and name are everlasting and eternal. The Egyptian called the soul as "Ah", "Ba" and "Ka".<sup>5</sup>

According to the scientific opinion:

"Ah" represented the spiritual forces closely connected with a human body;

"Ba" was approximately the same we call "holy spirit", i.e. the component of the immaterial part which can leave the body any time;

"Ka" was the main part of those three. "Ka" is mentioned as the "spiritual twin", "waking spirit", "vital force", "spiritual essence", "spiritual guardian of a human", "the second "I". It followed a human within all his life, "the second "I" continued to be after the death of a human and demanded sacrifice in kind of food, drink without which it perished. The word "Ka" was used also in a figurative sense. "House of Ka" was one of the names of the burial place. The priests conducting the burial were considered the servants of "Ka". The trip to the own "Ka" meant the death.

The Egyptians considered preservation of the deceased body as the main condition of the unearthly life. In order a human continues to live after death in the immaterial essence it was necessary to keep his material essence. With this purpose a body was embalmed and safely kept. The Egyptians paid big attention to this procedure as they believed that if something happened with the dead body his "Ah",

“Ba“ and “Ka“ would lose their material essence and a human would die in his immaterial essence. This was equated to the total death.

The Egyptians believed that the soul will come back sometimes in the body and it will rise from the dead. This was the final goal of embalming.

### **THE ESSENCE OF THE WORD “PYRAMID”**

The opponents when discussing this work asked for more grounded arguments confirming the interrelation of the pyramid and tornado. We hope that the information containing in the word “pyramid” will set an end to this polemics. Otherwise, the polemics will have a primitive character and will be expressed in the following:

**Question:** Now please prove that a teapot is a vessel which is related to a tea-party?

**Answer:** If you call this vessel a teapot what else shall I prove?

It is common for people to call some vessel, installation, building with a word related to the purpose of the object. For example, an iron vessel is called a teapot as in the teapot is boiled water for making tea.

What can be a question in this case and what is disputable here? Nothing.

The same situation is created with regard to the pyramid. They ask: Please prove that a structure which is called “tornado” is related to tornado?!

The answer shall be the same as in the case of a teapot.

If the structure is called “tornado”, then you point out to its relation to the tornado!

What shall I prove then?!

May be somebody wonders: who calls the structure for the burial of pharaoh as “tornado”?

Explanation: there are old records, terms, names which are hardly comprehended in the modern understanding. To those concepts we can attribute the Greek word “pyramid” which has come to use from the ancient times.

Many years ago, the word “Pyramid” was identified with the “fire column”<sup>6</sup> as its core was “πνε”, that is “fire”.



The scientists failed to explain the interrelation of the pyramid with the word: fire column” and having buried it began to find new versions of origin of the word “pyramid”. But the ancients Greeks named the pyramid with the word according to the phenomenon it generated. That is the essence of the word contained the purpose of this structure. Nothing is lost in the history. This knowledge is not lost too but it is comprehended subject to the thing of the ancient époque that is very rare today.

“Column” is the form of tornado descended from the sky to the earth.

“Fire column” is one of the types of tornado. As the generation of tornado is related to the thunderstorm clouds and fulgid sparks – lightning, illuminate them with bright light, it was perceived as the fire column. The Russian scientist D. V. Nalivkin<sup>7</sup> tells about the electrical phenomena related to tornado:

*“One of such phenomena is a fireball. During the notorious whirlwind Zhu on August 19, 1890 they were observed many times. Just when the whirlwind cloud was passing France it was accompanied with multiple fireballs. Air was so saturated with electricity that the points of the iron railing near one building radiated aigrettes of sparks (aigrettes electriques). In Switzerland, during the whirlwind a fireball through the broken window glass entered the room where two boys stayed. The fireball was fist-sized, of violet-red color and it slowly floated in the air approaching the boys. They scared and rushed to another room; the junior one hid him under the table, and the elder one began to run round the table. The fireball followed him but when crossing the room approached to the open door to the corridor and left it for the street without a trace and sound.*

*Other electrical phenomena related to whirlwinds are also very astonishing. Sometimes short and wide sheet lighting surrounds the whirlwind. Sometimes all its surface illuminates with a strange yellowish shine. Sometimes in the whirlwind cloud are observed the ball-like, bluish formations of fireball type but of larger size and with fuzzy contours. Sometimes there are formed fire columns which move slowly (Frankenfield, 1896).*

*The relationship of whirlwinds and other whirly formations with the atmospheric electricity is doubtless but its nature is not still studied completely. We cannot forget that in the whirly formations the friction of different particles, first of all, of dust, attains to extraordinary size and force.*

*An original phenomenon observed in the whirlwind thunderstorm clouds is the pulse generator described in the works by Jones (Jones, 1965). This is a certain center of electrical activity visible in the whirlwind cloud in kind of the roundish light-blue spot. It occurs 30-90 minutes before generation of whirlwinds.*

*In his last article Vonnegut (Vonnegut a. Meyer, 1966) gives the night photo of illuminating columns which resemble whirlwinds by their form and located in the area of passing of the thunderstorm cloud accompanied with four whirlwinds (Fig. 15). He thinks that those columns are reeled to whirlwinds and points once more that “the electrical forces and electrical heating can initiate whirlwinds” (Vonnegut a. Meyer, 1966. P. 68). Vonnegut in the same book provides the interesting description of the light phenomena by the whirlwind eyewitnesses: fireballs... yellowish-white, bright surface of funnel... continuous shines... fire columns... shining clouds... greenish shine... shining column... shine in kind of a ring... bright shining cloud of fire color... rotating strip of dark-blue color... light-blue misty strips... brick-red shining... rotating shining wheel... bursting fireballs... fire fluid... shining spots... ”*



**Fig. 15. Illuminating column in the area of Toledo whirlwinds passage, Ohayo (Vonnegut, 1960).**

As we see the eyewitnesses and the scientists when describing tornados use the following concepts: fire column, shining column.

Therefore, it is not strange that the ancient Egyptians called as “fire column” not only tornado but those structures where the fire column descended, i.e. the tornado.

In atmosphere the positively and negatively charged particles of air gravitate to each other when the large energy accumulates. When the particles collide there generate thunder and lightning, flash light. This is one of the kinds of discharge, transformation of energy accumulated in clouds. There are other kinds of transformation of energy contained in thunderstorm clouds. One of them is transition of this energy to the body of tornado.



**Fig. 16. Fire-column tornado, Australia, 2014.**

In the upper layers of atmosphere is observed strong ionization as it forms under the impact of the direct radiation of solar rays. However, it happens that the air in the superterranean layer is charged most of all, this more often takes place in spring when the ascending flows of wet air rise to the sky with a great rate. They make friction with the descending air flows whereby the air particles take their charge.

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As it has been mentioned above, the pyramid preserves the coolness that contributes to the air cooling. In virtue of this the air above the pyramid is not subjected to the ascending movement, but the hot air outside pyramid intensively rises up. The intensively ascending air masses prevent the cooled air masses which have attained the cloud to come back to the place where they began their movement to the sky. For this reason in the front part of the cloud is generated the high pressure. The cooled air seeks the possibility to return to the earth. For this the air mass began to move horizontally to the area of low pressure. And such place could be the cloud above the pyramid. The air masses rolling in from all four sides of the horizon to the said cloud could generate the spiral movement in collision and descend in such form on the peak of the pyramid.

In case of uneven distribution of temperature the ascending and descending air masses redistributed as follows: the descending air column – on the peak of the white pyramid, the ascending column – on the adjacent area. In this position the points of collision or friction of ascending and descending air mass flows were the external cover of the descending air column. Acceleration of the velocity of air flocs moving in opposite directions can cause intensification of friction and increase in the electrical air charge. As a result the air flow descending on the top of the pyramid could look like a fire column or the light column at the night. We have mentioned such shining of tornado above. Let's remember the Vonnegut's words: "the electrical forces and electrical heating can initiate whirlwinds".

With extension of tornado the air in the center is completely dispersed. Discharged, the pressure drops. The tornado attained the earth or water surface scatters a part of air by periphery, the other part which appears in the center of tornado uprushes with the enormous speed because of the low pressure in the tornado. This air mass takes up any object or body it meets on its way. The objects or bodies which have attained to the cloud in vertical movement then continue to move horizontally. On the earth they can appear in some kilometers form tornado.

Formation of vertical mutually opposite movement of air masses mentioned above is possible only in calm weather. The sudden wind of horizontal direction can prevent generation of tornado.

The period before tornado is characterized by the eyewitnesses as calm windless weather, i.e. dead calm. Such evidences coincide with the processes described in our theory. Due to the impossibility of formation of vertically descending air column on the top of pyramid in case of occurrence of horizontal wind, all further processes including generation of tornado would not take place.

As to the rock (pyramid), its effect on the processes which take place in the tornado cloud is the additional trigger to accelerate formation of tornado and its direction from clouds to the pyramid. Without the trigger the process of formation of tornado will require more time in course of which there could occur other preceding phenomena – thunderstorm, hail, rainfall. Tornado may form along with them but we cannot exclude that the preceding meteorological processes decrease the power accumulated in the thunderstorm clouds so that tornado will not occur at all.

In my opinion, the above mentioned uneven distribution of temperature, or the called triggers in these cases promote, accelerate the transition of the power accumulated in the thunderstorm clouds to the tornado but not its release in another form.

If this opinion is reasoned, then on those areas of the earth where the objects of uneven distribution of temperature, the so called triggers (rock, canyon, hollow) are, tornado should occur more frequently.

Meteorologists when characterizing tornado occurring in the USA unanimously note that most frequently they occur in the central states, the eastern part of the Rocky Mountains where the air is saturated with the wet from the Gulf of Mexico and Caribbean Sea. Without the adequate research it is hard to determine exactly what is the origin of tornado in the US central states and if the Rocky Mountains impact on their formation, Nevertheless, this is the fact that in the places where from 200 to 600 tornados form are both the rock and humid air.

Meteorologists name the collision of warm and cold air flows as one of the reasons of occurrence of tornado in America. This factor of occurrence of tornado has been discussed by use above. However, noteworthy is the following: may be the process of collision of flows of cold and warm air during formation of tornado does not exclude the factor of the rock that is the uneven distribution of temperature may be the additional trigger for the climate of America disposed to occurrence of tornado. Both in the conditions of America and in the ancient Egypt the collision of cold and warm air masses were very frequent. To confirm this fact let's address to the history as well. The author of the text is Bruce:<sup>8</sup>

*“In Abydos the morning is always clear and the sun always begins to shine in 9:00 o'clock. At first at the horizon we can see a small cloud 4 feet wide which as if rotates round its axis, approaches the zenith, slowing the speed. Then it changes and dispersed along the atmosphere as if attracting vapor from all sides. The vapor particles also transform into clouds which having attained to the same height begin to collide with each other with the great force and stress. The air driven by the quickly moving gravest cloud together with the adjacent clots of clouds create the great strain. Then one group of clouds when moving replaces other one and we hear the scaring thunder followed by rain.*

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*After some hours the sky is clean again under the impact of the northern wind which brings unpleasant cold”.*

**We can note two facts in the description by Bruce:**

**I** – the processes described above evidence the unstable stratification of atmosphere of local origin. The Russian scientist Khromov connects occurrence of tornado just with the particular strong unstable stratification of atmosphere.<sup>9</sup>

**II** – we shall also note the description of the cold northern wind by Bruce. Its occurrence is conditioned by the following fact: throughout Egypt, from the west to the east there are mountain systems creating a kind of corridor. Northern winds blow in that corridor. Collision of flows of warm, humid air descending during the period of flood with the cold air mass from the north could generate the accelerated vapor condensation. Such process, in turn, promotes the quick formation of clouds and the rate of vapor condensation impacts on the occurrence of electrical field inside the clouds that rather promotes occurrence of tornado.

Subject to the forgoing, we can say that in the ancient Egypt there were all conditions for formation of tornado: humid air, facts of collision of cold and warm air masses; availability of triggers of tornado, i.e. the objects promoting the uneven distribution of temperature (rocks, artificial rocks – the pyramids and so on).

**The same situation takes place in the USA at present:**

The flows of wet saturated air enter the continent from the Gulf of Mexico and Caribbean Sea; in the depth of continent is observed the penetration of northern cold air masses and their collision with warm wet air; there are many objects promoting formation of tornado, i.e. objects of uneven distribution of temperature (rocks, canyons, hollows and so on) in the continent. Consequently, in this territory the cases of formation of tornado are not rare. Today the whirlwinds, including tornado, are the natural calamity N 1 in America which are the cause of death of ten thousand people and the huge annual economic loss for the country.

The technical literature sources provide the following description of tornado: any tornado occurs from a thunderstorm cloud. This cloud is called as “mother cloud” where tornado is formed. In the front part of the cloud occurs the horizontal movement of air and its direct continuation is the vertical spiral movement descending on the ground. Tornado takes and rises up to the sky the dust, sand and water that color it dark. The diameter of tornado column varies from some tens to some hundreds meters.

The rate of rotating movement in the tornado increases and may attain to 200-300 m/sec. Such enormous rotating movements develop the centrifugal forces in the tornado which cause the drop of pressure inside it. The air in tornado makes the whirlwind vertical movement round the own axis. The tornado also moves horizontally with the speed 30-50 km/hour.

Tornados may last some minutes and some hours. Its horizontal movement can make 5-10 km. American tornados move very far, there were cases of their moving off the place of generation by 100 km.

Tornado may occur almost in all continents, but the most frequent this phenomenon occurs in the USA.

This meteorological phenomenon occurred in oceans and seas is called as a waterspout and on the land – as a tornado. The difference between them is that the waterspout takes water and its inhabitants while tornado rise to the sky dust, soil, various objects, animals, birds and people. Sometimes, the waterspout occurred on the water migrates to the land and vice versa. The waterspout mainly occurs at the water temperature 27-28 degrees. Warm water abundantly saturates the prewater air with wet that is the most favorable condition of formation of tornado. The approach of tornado is accompanied with the huge noise. There are registered the case of rising to the air both small objects and object which weight is 200-300 tons. There were cases when the tornado took to the air the passenger trains and bridges, sucked and emptied the lake with its inhabitants. There was one case when the house appeared in the center of tornado, its inner pressure failed to be equal with the low pressure in the tornado and it burst as a balloon. In 1923 in the state of Tennessee was fixed the following fact: a mistress with two daughters sat at the table. This took place so quickly that the family members couldn't get up. The walls and the ceiling got off the ground, scattered into small pieces and flew to the sky. There left only the floor, table, the mother and two daughters.

There are also cases of replacement of people with tornado to the distance form some tens to some hundreds meters. Sometimes the people were taken to some kilometers. The tornado which destroyed the farm in Oklahoma took two women the dead bodies of which were then found out in 3 kilometers from the scene.

On April 12, 1927 in Arkansas tornado took away a child who having flown 4.5 kilometers landed safe.



*Fig. 17. Rain of frogs, 1549 (Cuder, 1922)*

There are many facts when tornado replaced animals. Sometimes, tornado with the water from the sea, swamps. Lakes sucked microorganisms, fishes, frogs, mice and then in ten kilometers far from those places their bodies felt on the earth together with the rain (Fig. 17).

## **The Natural Mechanism of Whirlwind - Tornado Genesis**

The following fact is noteworthy: a whirlwind - tornado is observed in those places where no pyramids and rocks are located, e.g. over forests, fields, oceans and seas.

Those areas with homogenous surface are warmed evenly and, in turn, warm evenly the air masses which come close to them. Therefore, those areas do not provide the adequate reason for uneven distribution of the air temperature, hence the descending air column does not form over those areas that ultimately promotes generation of tornado.

### **What is the cause of generation of a whirlwind or tornado over those areas?**

To study this problem let's refer to the photo picturing the whirlwind which took place in Batumi.

*Fig. 18 a, b Tornado in Batumi, 2002.*



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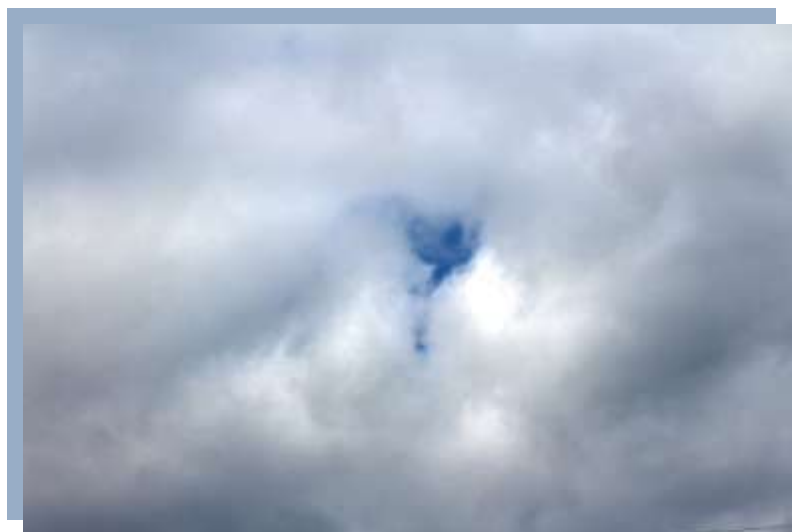
In this picture the sky is represented with the groups of dark cloud blocks where in the places of junction of dark clouds the solar rays are breaking down thus showing that clouds are thinner there. The persons who made these photos were telling that that day in Batumi was very hot, no stir in the air and high humidity. Clouds slowly moved from the sea to the seashore, it became dark when suddenly a descending column felt from the clouds in the sea.

From this story noteworthy is the fact of sky darkening due to the increase in the thickness of clouds whereby the solar rays could not attain the seashore.

Looking at the countdown formation of those clouds we shall consider this cloud system by the decrease in their sizes. In this case the thin layer of light cloud of Batumi tornados demonstrated in the photos did not exist at all just a few minutes or few seconds ago and in place of them there should be a hollow. Let's look at those clouds from the down view (*Fig. 19 a, b*).



**Fig.19 a.**



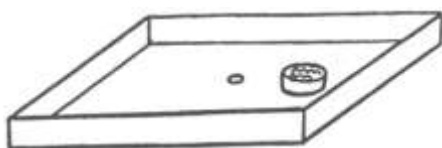
**Fig.19 b.**

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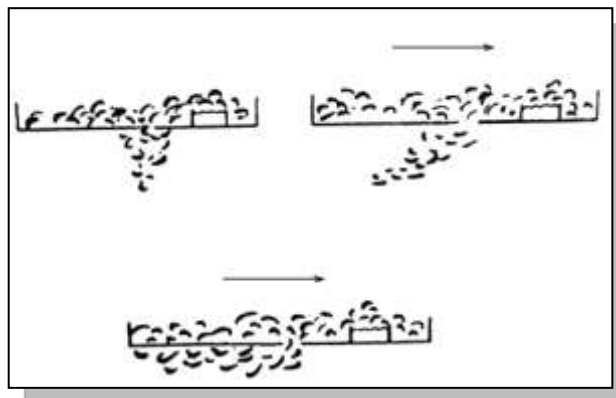
A cloud begins to grow and cover the whole sky. The humid air evaporated from the sea should have a contact with the cloud thus transforming the humid air into a cloud. In my opinion, here cold air felt on a cloud from above and this cloud became a dividing layer between the warm humid water evaporated from the sea and cold air from the sky.

When clouds increase, the holes in them may close. But what takes place before the filling of such holes? To find this we can make a small simulation of a phenomenon which takes place when the holed clouds represent the dividing layer between warm air and cold air.



To make an experiment we used a cardboard sheet of 60X60 cm size with a hole and boards made in it. We put a vessel with water inside this box (*Fig. 20*).

Inside we put carbon-dioxide ice which evaporated cold vapor. For this case the cardboard plane played a role of a holed cloud. Cold vapor from the vessel first poured out into the box and then went from the hole vertically down. As we have mentioned above, in case of Batumi tornado the cloud moved towards the seashore. For this reason in the experiment we carried the holed cardboard horizontally in the air. As a result the vertically descending cold vapor column inclined to the direction opposite to the movement, and with increase in the speed the cold air column fully covered the cardboard (*Fig. 21*).



Let's turn back to Batumi tornado. Let's imagine, that like in the experiment the mentioned holed cloud let pass the cold air flow and then the holes were closed. By this way below the cloud was formed the cold air area in the warm medium. In my opinion, this state finally resulted in origination of tornado.

One argument supporting this idea is the fact that on the photo of Batumi there are several light spots in the dark clouds that might serve as ways for penetration of cold air. The picture demonstrates several columns of tornado that should not be occasional. Noteworthy also is the following fact: in the photo, tornado columns come down from not light spots but from dark clouds behind them (we imply

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the opposite side of the cloud direction). Also, in the experiment when we moved the holed cardboard, the cold vapor moved to the direction opposite the cardboard movement. Therefore, Batumi tornados originated and felt in the place where cold air accumulated, i.e. near a hole. Just in this place we observed the largest dark cloud resulted from the quick condensation/It represents the place of contact of cold and warm humid air that is the necessary condition of further generation of tornado.

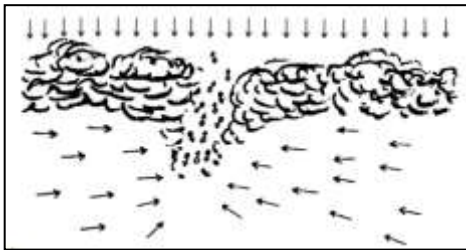
In many cases, witnesses of tornado describe the phenomenon as follows: “We saw a big dark cloud which was coming closer and closer”. A man can fix the black color of cloud, when the cloud is accompanied with the white background, i.e. we cannot exclude that near this black cloud there should be holes in the cloud through which the cold air penetrated and then accumulated below the cloud. I have called such clouds cancellated, which provide the “trap effect”. They let pass the cold air mass below the cloud, then the hole closes, whereupon in the lower cloud part the condensation process begins. The cloud begins to grow towards the land and to darken and then tornado begins to generate.

Before we start to describe the inner mechanism of a whirlwind, i.e. how a tornado generates in the dark cloud, I would like to note that the white pyramid or an artificial rock was build for generation of a cancellated cloud. As we have mentioned, the white pyramid retains cold. Like the warm medium surrounding it, in case of cloud formation, a cold air column descending on the pyramid for a certain period of time retained the descending path from the sky to the ground, in kind of the last opening - a hole in the sky. The tornado formed on the top of the white pyramid only in that case when the clouds did not move but accumulated in one place. In this case the cold air column stopped on the white pyramid. After the total formation of a cold air column or after the filling of this last hole, the clouds appeared to be a cold area where the final condensation stage should continue – the growth of cloud, its darkening and then generation of tornado. A cancellated cloud may also generate under the effect of uneven distribution of temperature on the ground and by the chaotic integration of clouds as a result of which cold air appears below the cloud. Just after this stage or, after transformation of cold air below the cloud, tornados and whirlwinds generated on the top of pyramid, on the top of the rock, above the sea or above the field develop similarly and the mechanism of their generation is described as follows.

Let’s refer again to the photo of Batumi tornado and describe the ongoing processes. After full coverage of the sky with clouds the air circulation stops. Hot air cannot get above the cloud and cold air cannot get to the earth, while water surface retains warm for several hours and, consequently, transfers the warm to the connecting air, whereby the humid warm air continues movement towards the cloud, or towards the direction where the movement is stopped. As a result of this the pressure in

the lower space of cloud increases. This process development cannot be constant. The pressure requires discharge of the accumulated power. The urge of discharging this power causes tornado generation. Accumulated air shall find the way out from the closed space. The cold air area below the cloud described above becomes the point from where the air begins to cut the way through cloud layers towards the sky. This cloud generates tornado column which then falls to the earth. It is very easy to check that the tornado column really contains the way out to the sky through the cloud. Witnesses note that the tornado center contains a hole where air goes vertically up and takes everything with it to the sky. The photos taken from the space also show the hole inside the parent cloud. Why and how this hole appears in the cloud?

Let's look at *Fig. 22* which shows the process of contact of warm humid air with cold air area below the cloud. In this space the air cell contracts, whereby the moisture cell withdraws from it.

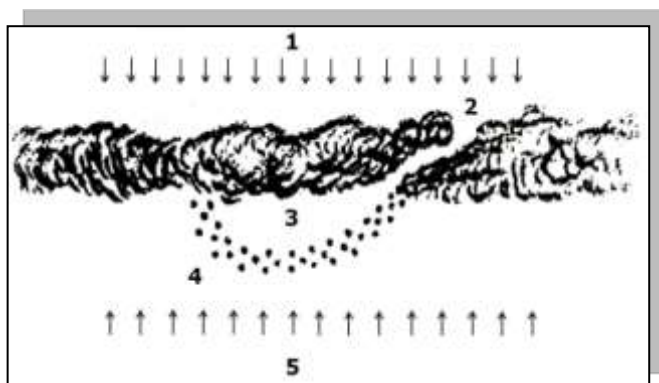


These two separate cells have their own paths: the moisture is relatively heavy and it does not continue movement up, but, to contrary, moves down. As to warm air cell, it loses warmth due to contact with cold air to some extent, but becomes not so cold as the cold air mass surrounding it, and stays relatively

warm compared to the surrounding air. This points out that the air cells released from moisture can cut their way through the cloud vertically up with a great force. Exit of several such cells above the cloud will cause the beginning of release of the energy which has been accumulated between the cloud and the earth, whereby the ascending warm humid air will be directed towards the spot where the first passage in this closed space was formed.

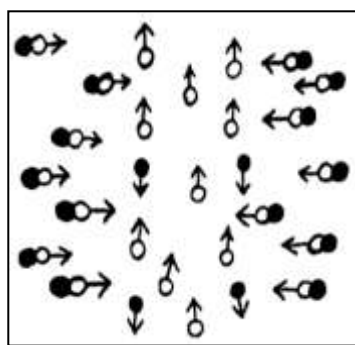
What way is chosen by the cell which has been released as moisture from the ascending air cell? Essentially it represents white cell like a cloud fraction and its movement directs down for its heaviness. The speed of movements of the air cell freed from the ascending moisture and the moisture cell freed from descending air results in the temperature difference between cold air and warm air. The more the difference is, the more rapid the movements are formed. Consequently, it end with formation of tornado.

*Fig. 23.*



- 1 – cold air above the cloud*
- 2 – cold air hole through the cloud*
- 3 – cold air mass below the cloud*
- 4 – condensation strip*
- 5 – humid warm ascending air*

*Ph. D. Gizo Vashakidze "The Personal Tornado for Pharaoh's Soul"*



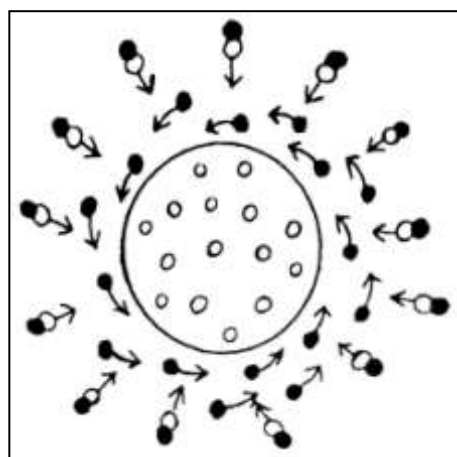
*Fig. 24.*

●● - humid warm air

○ - ascending cell freed from moisture

● - descending cell freed from air cell

Let's look at *Fig. 25*. Descending moisture cells are formed between two movements, therefore their passage will not be absolutely vertical and will decline because the humid warm air mass will surround it from the all four sides of horizon, so the only way for it will be the descending spiral, the circular movement round the ascending column, that is it will not leave the spiral out.



*Fig. 25*

○ - ascending air

● - descending moisture

●● - humid air

The tornado generation is described by a process of condensation, or the process where the air and moisture cells distance from each other due to the temperature difference. Those phenomena go on very slow and smoothly and would continue to move so smoothly, if not the effect of other mechanism of separation of air and moisture, that is achieved by the friction force. As is shown on *Fig. 24* and *Fig. 25*, along the movement of three different directions under the pressure is formed the strong friction which separates moisture and air mechanically that results in formation of tornado – a whirlwind. This meteorological process transits to the aggregate state. In my opinion, a whirlwind (tornado) is a kind of “generator” where the process of temperature (in the beginning) and mechanical separation of moisture and air takes place as a result of which the nature finds its way out by itself, in order to release the energy accumulated below the cloud.

The simple example of existence of two variants of separations of water and air cells is the aerated water in a bottle. If we pour it in a vessel and warm, the air cells existing in the water will emerge on the water surface and will leave the water. This is how water and air are separated by the temperature effect.

The second variant of this process may be observed as follows: let's shake a bottle with aerated mineral water. Under the friction force the air bubbles will separate from the water, reach the neck of the bottle and air with a great speed will pour out from the bottle and leave it. Water for its weight will slop over and the air cells which existed in it will join the surrounding air. As we see, separation of water and air mechanically requires more efforts. Like in a bottle, the process of separation of water and air acting in the tornado generates the enormous movement.

**Subject to the foregoing, we can make the following conclusion:**

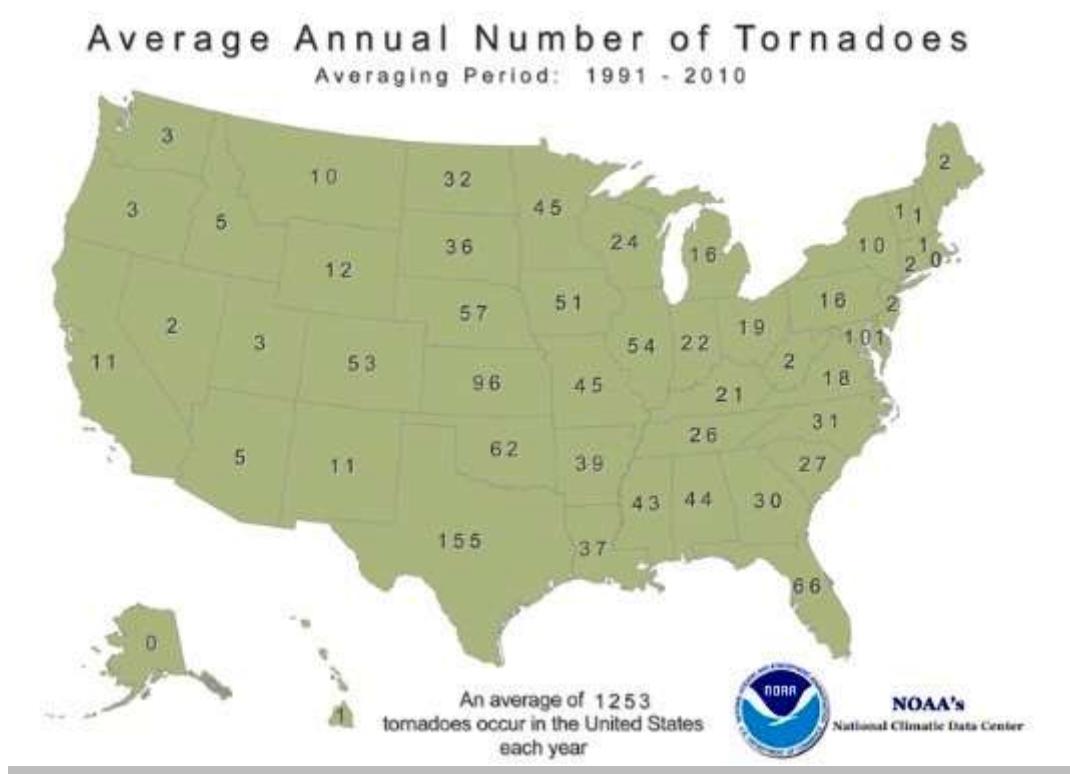
1. The cancelled "trapping" cloud provoking generation of tornado which took place in Batumi could be formed as a result of occasional chaotic accumulation of cloud layers.
2. The cancelled "trapping" cloud provoking generation of tornado which took place in Batumi could be formed on the top of any rock situated westwards from the Black Sea or on the top of the object which unevenly distributes the temperature between the cold center and hot surrounding that provokes the descent of the descending cold air in the center and then formation of the clouds of the above mentioned shape. Thereafter, those clouds move eastwards, reach the Batumi seashore where other climatic conditions necessary for generation of tornado are available, namely;
  - humid air;
  - windless calm;
  - flow of cold air mass above the clouds;
  - ascending warm air below the cloud.

**All those factors could provoke generation of a whirlwind-tornado in this region. It should be noted that in the USA tornado can be formed:**

1. On the top of or near the rocks which provide for the above mentioned uneven temperature distribution, thus shaping the cancelled cloud.
2. The clouds of those shape formed on the rocks are moving and distributing all over the territory of the USA, that is a component which provokes a tornado, and if those clouds reach the territory where the cold and warm air is accumulated above and below the cancelled cloud and this is

combined with a windless calm and other conditions necessary for tornado formation, in this case a tornado generates on that territory.

3. On the USA territory a cancellated cloud may form not only on the top of a rock, but in any place where clouds chaotically join each other, leave holes in joints that conditions tornado formation.
4. In the USA all the above listed variants have a joint effect thus provoking multiple tornadoes.



Below see the following variant of verification of the proposed theory. Let's place the photos:

*I – Batumi tornado;*

*II – the US rocks and clouds on their tops*

*III – pyramid*

In such way the circle from tornado to pyramid has been closed based on the following facts.

On **Fig. 26 - I** we see Batumi tornado which have been generated near the cancellated clouds and under their effect. On **Fig. 26 - II** we see the territory of the USA southwest notable for tornados where cancellated clouds form on the top of rocks. In the hole of clouds on the top of one rock, we can clearly see the lightning that shows that the cold air descends through this hole to the rock top and after collision with the warm air below the cloud causes the lightning. Therefore, the rock due to its ability to preserve cold, can create the descending cold air flow on its top, and in case of cloud formation to create a cancellated cloud where the process in case of relevant development results in

*Ph. D. Gizo Vashakidze "The Personal Tornado for Pharaoh's Soul"*

formation of tornado. On **Fig. 26 - III** is presented the pyramid. This is the same artificial rock situated in a plain surrounding where the USA natural rocks are situated on the previous picture. The only difference between them is that the pyramid has more sophisticated parameters which provide for a sharp temperature jump with the cold center and hot surrounding and provoke the descent of cold air to the pyramid. As we see from the picture of the USS rocks, this results in the formation of a cancellated cloud on the top of a rock, that in case of relevant conditions leads to the formation of tornado as it is shown in the picture of Batumi tornado.

Therefore, the circle by this has been closed, quod erat demonstrandum.

**Fig.26**

**I**



**II**

**III**

## HIEROGLYPHS

*“In the beginning was the Word”.*

The Egyptians built pyramids to call the Ra's boat – tornado to the pharaoh's burials. The fact of descending the deity of idolaters on the pyramid would be taken by the Egyptians as the epochal event of top importance. Therefore, we can conclude that the witnesses should record this miracle in the Egyptian inscriptions.

With the hope to find the drawings of pyramids and tornado I've crossed the threshold of the mysterious world of hieroglyphs. The searches enabled to establish that the remains of hieroglyphs on the pyramid walls have kept the drawings of tornado and pyramids. Noteworthy is that the drawings of tornado and pyramids in hieroglyphs are placed close to each other that, without fail, shows their interrelation (*Fig. 27*).<sup>10</sup>



*Fig. 27*

In my opinion, the Egyptians with their drawings and hieroglyphs transmitted the symbolic word meanings and the sum of words provides the content of the described sentence. As it has been revealed further, my concept coincides with the Egyptian method of traditional reading of hieroglyphs, i.e. the symbolic method where the hieroglyphs are attached the symbolic, ideographic and metaphorical meanings.

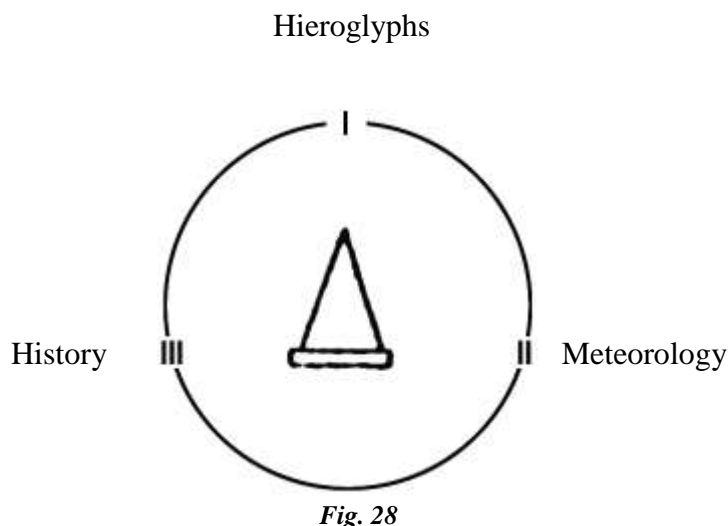
Based on the knowledge of the interrelation of the pyramid and tornado and typical features of tornado I have given to hieroglyphs the symbolic word meanings that enabled to determine the content of the sentence. I have presented the hieroglyphs deciphered by me to the experts who have assessed this negatively and proposed to me to consider the opinion of the universally recognized scientists, including the most competent French scientist François Champollion, earlier not known to me. As it is known, in the 19<sup>th</sup> century academician Champollion rejected the 5000 years old Egyptian symbolic method. In the same period he created the absolutely new, the so called mixed phonetic-symbolic method of reading of hieroglyphs where the majority of them are given the phonetic, i.e. letter value while the existence of hieroglyphs of symbolic value is minimized.



It is incredible how in the 19<sup>th</sup> century the Egyptian symbolic method of many thousand years could be rejected? Even the thought about it arises the protest. In connection with this I have considered necessary to find arguments in defense of the Egyptian method of reading of hieroglyphs and the inevitability of proving the content of the hieroglyph deciphered by me.

## RELATIONSHIP OF SCIENCES

To verify the accuracy of the content of the above mentioned hieroglyph read by me (*Fig. 27*). I have used the relationship of various sciences: linguistics, history, theology, meteorology. They make the integrity of our knowledge. Their relationship close the disk which can be conditionally names the history of a defined segment of life of people (*Fig. 28*).




In this integrity of knowledge we can provide the historical, meteorological and hieroglyphic description of pyramid. I think that however the descriptions of purpose of pyramid by various sciences differ they should be directed at one and the same content.

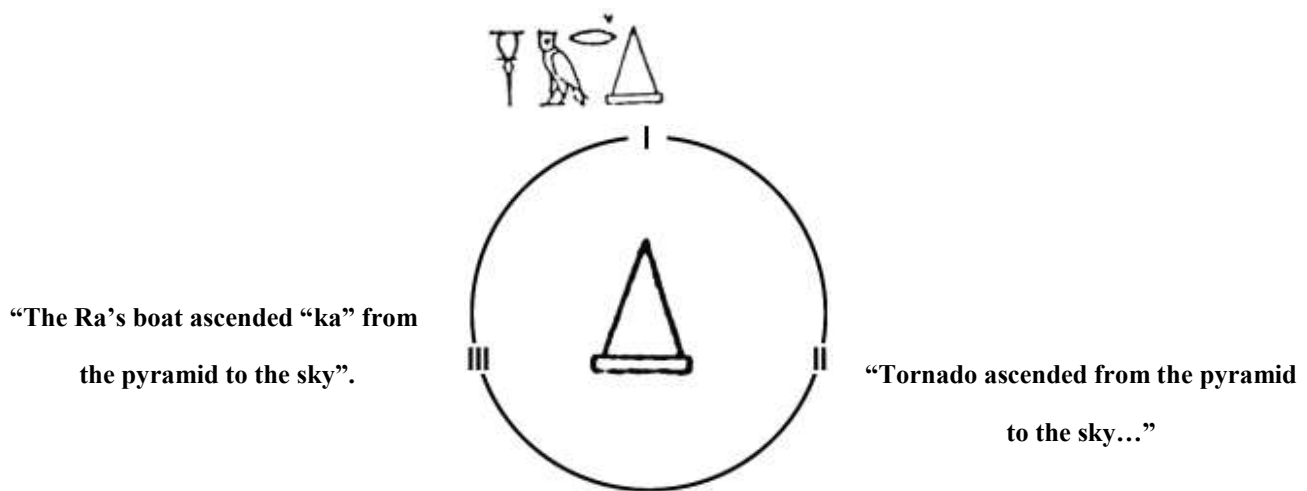
**History (III)** – in the first part of the book provides the legend about the purpose of pyramid. It is universally known the events contained in legends, verses and other works which tell about one and the same fact: ascending of “ka” from the pyramid to the sky by the Ra’s boat. Let’s take the short main content of the historic information: “The Ra’s boat ascended “ka” from the pyramid to the sky”.

**Meteorology (II)** – the first part of the book is devoted to the interrelation between the pyramid and climate and clearly defines the purpose of pyramid. The pyramid activated tornado which could

ascend to the sky. Let's put in this circle the developing phenomena in interaction of the climate with the pyramid. "Tornado ascended from the pyramid to the sky..."

**Hieroglyphs (I)** - in what hieroglyphs can we search the information about the purpose of pyramid? This is human's way to designate the purpose by inscription on any object, device, obelisk or building.



The said hieroglyph  is copied from the pyramid wall. The fifth figure represents the pyramid itself. Therefore, it is not stranger, that these hieroglyphs tells about the pyramid and its purpose. Let's put this hieroglyph in the circle (*Fig. 29*).



*Fig. 29*

The historical and meteorological descriptions of pyramid inside the circle mainly coincide that is quite normal. Let's see how they coincide with the content of hieroglyph.

The fifth figure of this hieroglyph is the well-known triangle – the pyramid.

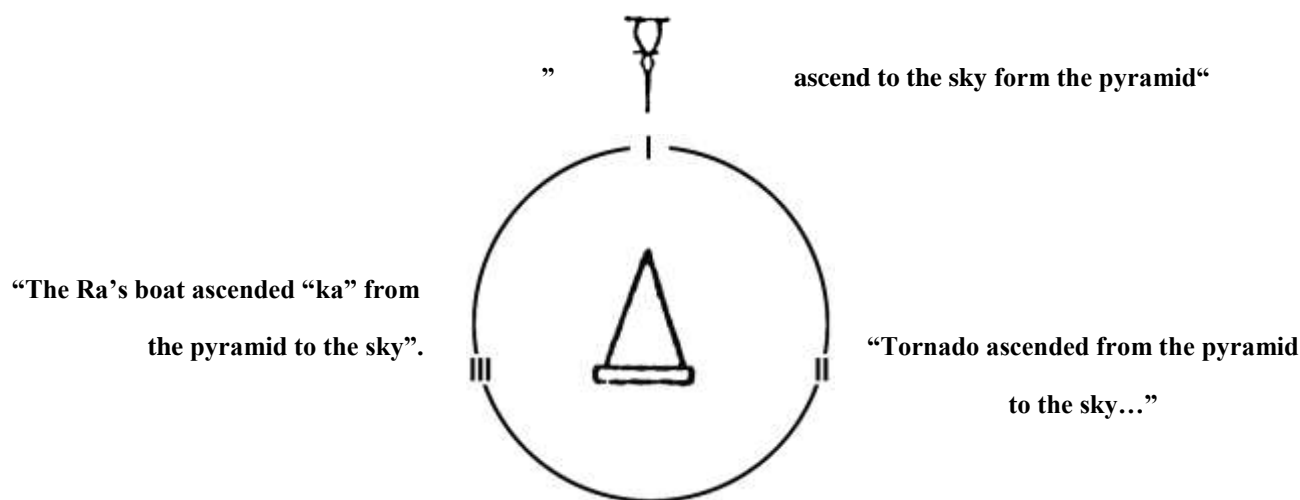
The second and fourth figures represent two bird fragments. The second figure  is a bird sitting on the ground which is ready to take away, rise, ascend... The fourth figure is the bird  with open wings which looks very small as it is far in the sky.

How can we describe the actions of two fragments of a predator bird other than "to take to the sky", "to ascend", "to take off". The more so that the "ascending to the sky" and "to take off" coincide with the historic meteorological descriptions of pyramid. Therefore, the ellipse between the birds should figure the sky contour.

The scientists have no unambiguous interpretation of the figure of ellipse. In my opinion, the ellipse can represent the sky contour and that is why: it is known that when applying any figure on a paper a human first draws its contour. If we look at the sky so that not to see the place of connection of the earth with the sky, we will see the emptiness, the boundless sky not outlined with a contour. It is larger than we can look over but we see only a part of the whole that is a visible part of the sky is enclosed in the frame and this is the frame of our eye. In this elliptic frame we see the sky of such size that goes into the field of view, i.e. the elliptic contour.

May be the Egyptians did not use the concrete word “sky” to designate the places of otherworldly stay of the spirit but called it as “firmament”, “universe”, “celestial house of spirit”, “space”, “infinity”. In my opinion, they designated with the figure of ellipse the word which to the full extent pointed to the place of otherworld stay of the soul. May be between the figure of ellipse and the word of “soul” there was some relationship.

In this work in place of the ellipse we will use conditionally the word “sky”. In place of the bird, ellipse and pyramid let’s put in the circle “ascend to the sky form the pyramid” (*Fig. 30*).



*Fig. 30*

So there has left the first figure of the hieroglyph. Let’s look at other figures. The figures standing on the ground have the basis and their form meets all earthy laws. The object or creature pictured by the first figure cannot stand on the ground. This is impossible. Of course, its basis is the sky that is underlined on the picture. Let’s write down the beginning of all texts in the circle.



1. – its basis is in the sky, the upper part is widened, and the lower part – narrowed.
2. Ra's boat – it descended from the sky to the pyramid and ascended from there to the sky.
3. Tornado – it generates in the sky. Its basis – the widened part is in the sky and the narrow part – to the ground. When descended on the ground it can take to the sky.

The characteristics are similar to each other, that is the first figure of the hieroglyph is the Ra's boat – tornado. The confirmation of this version shall be searched in the drawings and photos where the body of tornado is fixed (*Fig. 31 a, b*).




*Fig. 31 a. Tornado in Kansas (Knight, 1964)*




*Fig. 31 b. Tornado at Algeria seashore*

*(Zurcher et Margolle, 1883)*

The provided tornado contours and the first figure of this hieroglyph are identical. The circle is closed.

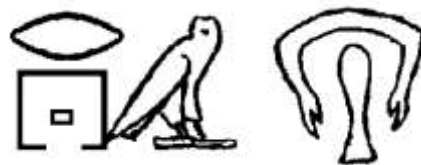
This hieroglyph is read as follows  : “The Ra's boat ascended “ka” – soul from the pyramid to the sky”. The text have been added the word “soul” as there is no figure picturing the soul in the hieroglyph. It may be explained as follows: soul is invisible and nobody has seen its outlines and contours. May be the Egyptians had no figurative picture for the soul. This hieroglyph belongs to the burial, i.e. is the part of the religious text. May be in the specific burial texts the priests depending on the context implied the word “ka” – soul where the soul ascends to the sky, faces the God and so on.

The fifth figure of this hieroglyph  is the burial itself. The ancient Egyptians called the burial as the terrestrial house for “ka”. Therefore, in the sentence we have obtained it is quite logical and justified the idea of ascending “ka” from the house of “ka”. Noteworthy is that the Egyptians used to associate the concept “soul” with birds and our hieroglyph has two figures of birds.

It is known that the Egyptian hieroglyphs are read where the figures are looking from. In the presented hieroglyphs, the figure of a bird looks left, therefore we began to read from the left to the right. However, if we read this hieroglyph from right to the left the content will not change: “The Ra’s boat ascending souls descended from the sky to the pyramid”.

The content of the deciphered hieroglyph evidences that the Egyptians observed how tornado generated at the pyramid, i.e. this hieroglyph is a documentary record. Noteworthy is that the figure of Ra’s boat i.e. tornado, presented in the hieroglyph, is the sketch of the initial phase of tornado that once more underlines that the pyramid drawn near the figure of tornado has initiated this tornado.

Let’s view the sculpture bas-relief on the interior part of the tomb of princess Idut<sup>11</sup> (*Fig. 32*) (we mean the undamaged part of the bas-relief).

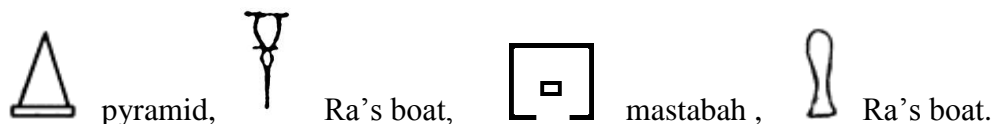


*Fig. 32*

We see among the figures the hands which are ready “to take from down to up”, and between those hands we see the tornado developing phase which implies the ability of ascending to the sky.

To the left from the tornado picture we again see the figures of a “bird”, “burial” and “ellipse”. How is a small figure of “burial” associated with the tornado? Of course, a small “burial” did not initiate the tornado. All Egyptians could not build pyramids, but this does not mean that the Egyptian population did not want their souls to be taken to the God of Ra, by a Ra’s rider. Hence, the idea of tornado generation could be of the general national interests. The tornado moved horizontally and when descending on the pyramid it took the pharaoh’s soul and the souls of those who were buried round the pyramid. May be this was the reason of so many burials built round the pyramids where we see the pictures of tornado phases. The described hieroglyph shows the developed phase of tornado, that is the tornado generated in another place and then reached this burial.

When we were analyzing the meanings of described hieroglyphs we noted the following interesting fact, in particular, that all nouns were taken from the figures drawn face forward. May be, an ancient Egyptian when imaging the full face of a figure pointed out that the figure should be perceived in direct meaning of the word. For example:



The figures drawn otherwise (not face forward, half face and so on) provide a symbolic meaning to the word. For example:



What did a bird of prey do?" – "It took it up"



What do the hands do?" – "They lift up".

Having applied the method of symbolism and some reading experience I've tried to decipher the hieroglyph existing in the burial of Ptah-Hotep.<sup>12</sup> At first let's focus on the search of the figures of direct word meaning of nouns, i.e. the figures drawn in full face.



the house



the Ra's boat (the drawing of tornado phase)



the Sun

Let's view the symbolic meaning of figures drawn otherwise.



The arrow has no head.

**Question:** why the arrow is headless?

**Answer:** It "flew in", "reached", "entered".



The unnatural location of figures is provided: a snake put on the sun setting in the sea.

Let's analyze separate figures.



A snake drawn half-face. The deadly bite typical for it.

**Question:** What does it do?

**Answer:** “It is preparing for a deadly bite”.




The sun setting in the sea.

**Question:** What does it occur when the sun sets?

**Answer:** “It gets dark”.

After a “deadly bite” a human loses vision that is equal to the “death”. May be in the burial texts the Egyptians used the figures of a snake and setting sun to write the words: “death”, “burial”, “end”, “loss”, “rest”.



Let's view separate figures of the described hieroglyphs where the human legs are given in various states. For example,  two legs depicted in half-face are making steps. It is quite easy to think that the Egyptians noted the word “to go” with these figures. If we look at the legs in half-face and not moving but standing, then we will see one leg because the other one will be hidden behind the first one. So we will get the described leg.



**Question:** What did it do?

**Answer:** “It brought before”.



In my opinion, this is a unique hieroglyph. One this figure can keep the secret of the pyramid purpose. The figure of pyramid encompasses the figure resembling tornado – the Ra's boat, and in addition, the pyramid has no top that is quite logical. The Egyptians represented the hieroglyph as the pyramid which top was cut under the effect of tornado and imaged inside the tornado. After contacting the Ra's boat the pyramid should gain the role of the Ra's temple on the Earth for the Egyptians.



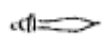
We see the spiral inside the figure.

The tornado is characterized as a “spiral”. We shall not exclude that here we see the figure depicting the spiral-shaped movement of air inside the tornado. Such movement inside the tornado picks up the living creatures and objects on its way and takes them up to the sky. If this concept is true, then the answer to the **question:** What does the spiral-shaped air movement do?

**Will be:** “picks up”, “gathers”.



A probable content of the group of those objects is: “It brought “ka’ before the temple of soul gatherer”.



The knife. Its main purpose is to be used for animal slaughtering (sheep, chickens, calves), i.e. used for sacrifice.

**Question:** What for prepared?

**Answer:** “Prepared for sacrifice”.



the chicken.

**Question:** Prepared for what?

**Answer:** For slaughtering.



the hands lifted up for prayer and sacrificing.

**Question:** What does a person do?

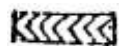
**Answer:** “sacrifices”, “prays”.



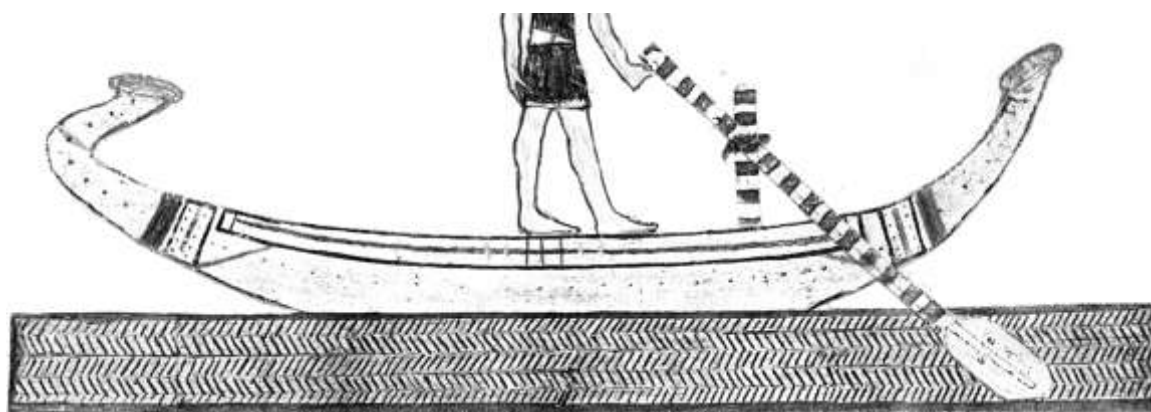
A pot without handle, i.e. the picture is incomplete.

**Question:** What do they do in a pot?

**Answer:** The food.



Such order of lines is met on the picture with a floating boat.



*Fig. 33.*

As we see this hieroglyph repeats the fragment of water flow.

**Question:** What do they do on the water?

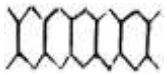
**Answer:** “They are floating”.





**Question:** “How many they are?”

**Answer:** “Multiple”.



Symmetrical figures.

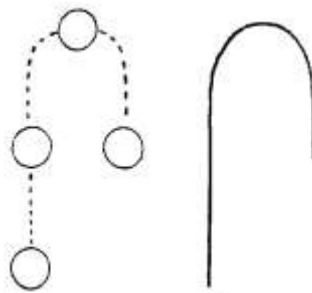
**Question:** What sort of?

**Answer:** “Beautiful”.

It is very difficult to find out the symbolic meaning of this figure. To my knowledge the scientists still do not know clearly what does this hieroglyph mean. I have my own version of this. The ancient people thought that the Sun goes round the Earth. Let’s depict the movement of the Sun from morning to evening (*Fig. 34*)

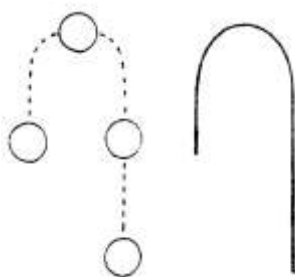
By connecting the points of the Sun movement we will get the shape identical to the shape of that hieroglyph.

As the movement of the Sun on the sky determines the march of time, the Egyptians should use this hieroglyph to mean the words “the time will come” or “the day will come” or some other word defining the time.



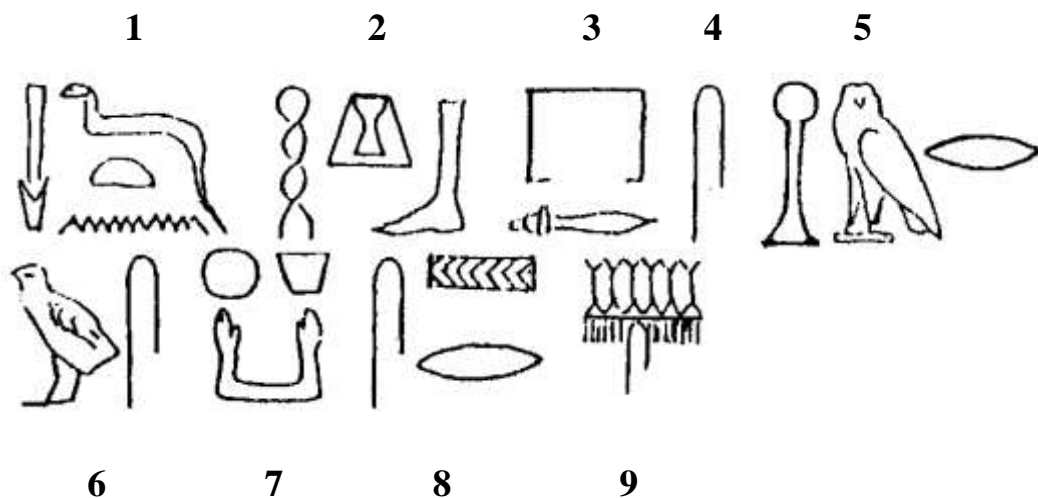
*Fig. 34.*

The opposite shape of this figure is interesting also (*Fig. 35*). By connecting the points of movement of the Sun on the sky we get the figure which is identical to the opposite shape of this hieroglyph.



*Fig. 35.*

On this picture the Sun comes down the sunrise line. The Egyptians should use this hieroglyph to define the words “night”, “passed time”, “past time”, “past day” or another relevant word.



*Fig. 36.*

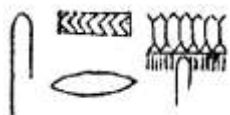
The above given hieroglyphs may have the following meaning (*Fig. 36*).

- 1. The death flew in (speared).**
- 2. “Ka” appeared before the temple of the gatherer of souls.**
- 3. The house prepared for sacrifice.**
- 4. The time (day) will come.**
- 5. The Ra’s boat will take the soul up to the sky.**
- 6. The time (day) of slaughtering has come.**
- 7. They sacrificed food to the Sun.**
- 8. The time of floating (soaring) in the sky has come.**
- 9. Many beautiful times (days) went away (diminished).**



Let’s look at some hieroglyphs separately.



“The death flew in (speared)”. It is known that the Egyptians thought the sky to be the place of the afterworld stay of soul. May be they connected the place from where the death comes, with the sky also. Noteworthy is that to get the words “the death flew in” they used the arrows flown from the space – “flew in - speared - suddenly from the sky”.



In my opinion, this group of hieroglyphs is read as follows: “The time of floating (soaring) in the sky has come, many beautiful days went (diminished)”.

The hieroglyphs have no figure which means the word “go away (diminish)” but in general the words “the time has come” and the figure designating it of one and the same size are met three times  and for the fourth time – in a smaller size . In reality the figure diminishes in the distance. Based on it I think it possible to note the fact of “going away” – “diminishing” in that place of the text where the figure repeats in a smaller size. Therefrom the expression: “Many beautiful times (days) went away (diminished).”

## 200 YEARS BEING IN TREAD WATER



The scientific literature acknowledges that the presented group of hieroglyphs was deciphered by Jean-François Champollion by the phonetic method and that the 5-figure group of hieroglyphs means two letters “M” and “R”.

**Question:** What for do 2 letters need 5 figures?

I have not got a logical explanation of this. However, the answer I have got from others was even more strange. It turns out that between these two consonants there should mean vowels which would make the whole word.

**Question:** What should the vowels mean?


I’ve got no answer to this question. Based on the logic, the place and number of vowels should be noted by Champollion himself.

**Question:** Why has not he left this information for us?

There is no answer. There are so small number of vowels in the alphabet, therefore the phonetic method specialists should not require much time to decipher the necessary combination. However, 200 years have passed from the moment of finding out that we should mean vowels between these two letters.


**Question:** How many hundred years more shall pass to solve this at first sight elementary problem?

I believe 200 years is quite enough time!

**Question:** What meaning is given graphically to the figure  ?

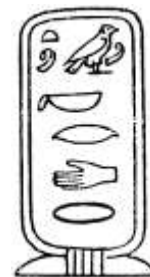
**Answer:** The meaning of this figure is unknown.

**Question:** How did people who cannot recognize the figures claim deciphering of hieroglyphs?

**Question:** What meaning is given graphically to the figure  ?

Champollion claimed that this figure means a mouth. Let's look thoroughly at the pictures made by the ancient Egyptians who were very good artists. They should draw the mouth more precisely than the ideal ellipse.

The book dedicated to Champollion's activity<sup>13</sup> presents the hieroglyph which casts light on the essence of the doubtful figure.



*Fig. 37.*

In the cartouche the third hieroglyph from the end obviously differs from the last figure of ellipse. We can ask: if these both figures depict the mouth why did the artist give different shapes to them?

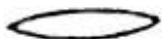
Let's ask the Egyptian artists what figure is depicted by the ellipse. The Egyptians depicted the eyes and mouth not only in hieroglyphs but when drawing the face in whole.



Tutankhamen's eye contour



Tutankhamen's mouth contour



Ikhnaton's eye contour



Ikhnaton's mouth contour



Sphinx' eye contour

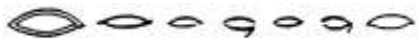


Sphinx' mouth contour



Compared figures

Comparison of presented figures shows that the ellipsoid figure with the downturn ends more like the mouth depicted by the Egyptians than the eye contour while the figure of ideal ellipse presented nearby looks more like the eye contour than the mouth contour.

By these at the first sight slight specific strokes the Egyptian scribe enforces the difference in shapes in order to help the hieroglyph readers not to misrecognize the meaning of similar hieroglyphic figures. The hieroglyphs provide different shapes of ellipse - 

In my opinion, the differences between them which are not significant for us were very important for the Egyptians as each of them denoted a new word. According to Champollion, all those figures are related to the letter “R”.

The Champollion’s method of unveiling pictures by the lexicon and designating the meanings of letters to hieroglyphs neglected the artistic aspect of the figures and became the reason of many mistakes.

The manuscripts about the Egypt and pyramids by the ancient historians which have reached to our days are suffused with the spirituality. Some modern historians used to criticize this and note that just those records prevent the modern scientists to decipher hieroglyphs. It is not a fault of ancient manuscripts that some scientists have not understood that the factor of spirituality played a real great role in the Egyptians’ life and this fact was properly and regularly reflected in ancient manuscripts.

If we deprive the construction of pyramids of the spirituality property, their erection will lose their idea. If we take away the spirituality property from the presented hieroglyphs, we will lose the possibility to read them forever.

The texts in shrines often contain the figures of tornado, bird and ellipse, i.e. the sky, together. Their combination expresses the idea of ascension of the soul to the sky and if we decline the “celestial” meaning of the ellipse figure, the integrity of these figures will lose the spirituality property. Attachment of the meaning of the sky to the ellipse we are describing is very important, because the tornado, sky and bird are inseparable. And where do they meet together? In the shrine of those people who dreamed of the spirit flight, of eternal heavenly life. The content of this hieroglyph deciphered by the symbolic method confirms the historical purpose and essence of pyramid.

Noteworthy is that Champollion discovered the phonetic method and read the names of pharaohs given in the contours.



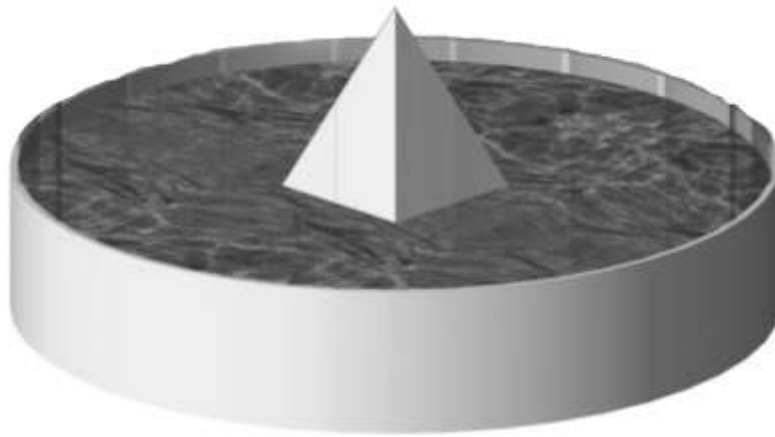
*Fig. 38 Cleopatra*

Then he claimed that the inscriptions in cartouches had the same hieroglyphs as letters and they also could be read by the phonetic method. In my opinion this is a big mistake as one can see on the examples of hieroglyphs presented by us. The phonetic method has actually frozen the hieroglyph deciphering process which still is on the same level as 200 years ago.

## EXPERIMENTS

In this book we provide the description of the initial stage of a small-scale experiment subject to the further development.

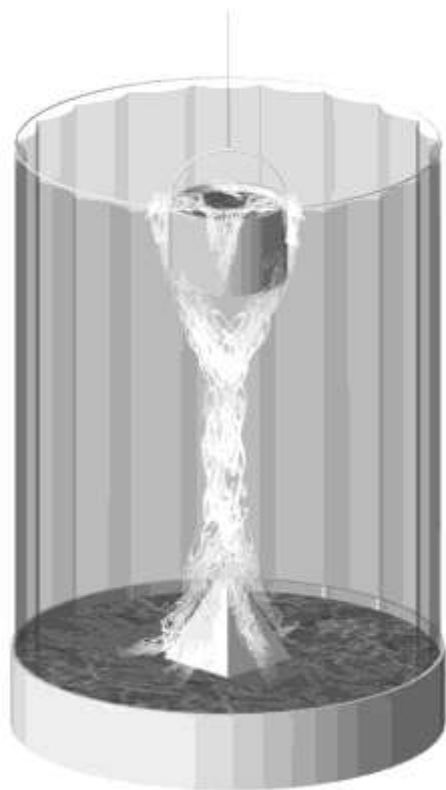
Based on the theory hereto occurrence of tornado in the Ancient Egypt was most probable in the period of flood. In course of the experiment the pyramid placed in the water looked as follows. (*Fig. 39*)



*Fig. 39.*

In the figure is shown the basin with the diameter 100 cm, full of water. The height of its wall is 20 cm. In the center of the basin is made a platform with the pyramid on it. The height of the pyramid is 20 cm.

At the current stage of the experiment we considered it reasonable to assume the following fact: during the period of flood, in the Ancient Egypt, past noon, i.e. when the cooling period began, the white pyramid should cooled quicker than the water which retain heat for a longer time. Therefore, in the course of experiment, without using solar rays, by means of an electric heater, the water in the basin was heated to the temperature 30°C as a result of which wet air began to move up.



As it is known one of the mandatory requirement for generation of tornado is the dead calm. To stop the horizontal movement of air in the course of experiment the basin was enveloped with the cellophane curtain. In the natural conditions the ascending warm air cools approximately by  $0.6^{\circ}\text{C}$  per 100 meters. As a result of this, up to the clouds the warm air temperature significantly drops. In the course of experiment we should achieve to the quick cooling of air in the distance one thousand times less. To achieve this effect we were to provide the artificial interference: above the model of pyramid was placed the vessel with dry ice in the water. The cold vapor stimulating the cooling of the surrounding air discharged from the vessel. From this moment began the **first phase of the first stage of the experiment.** (Fig. 40)

The cold heavy vapor stimulated the descending air movement. If the vapor discharged from the vessel moved by the shortest way it would descended to the water, but the warm air evaporated from the water prevented the descending air to move on the shortest way. The vessel body above the pyramid represented the barrier preventing the vapor to accumulate in the center. However, cold vapor from all sides evenly discharged from the vessel, enveloped it, accumulated in the center under the vessel, dropped on the top of pyramid and evenly distributed to all walls and thus aggregated with the warm ascending air which was above the water. So was generated that kind of air circulation about which we have told in the above –mentioned theory: the descending cold air in the center above the pyramid and ascending warm air on peripheries.



#### **The second phase of experiment (Fig. 41.).**

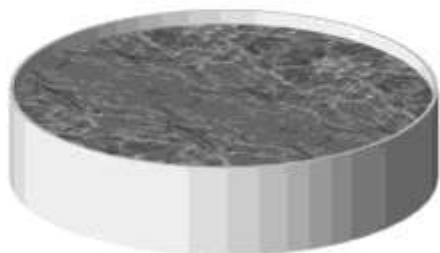
The model of pyramid was taken from the basin whereupon over the whole area of the basin was evenly distributed the ascending flow of warm air. The descending cold air flow accumulated in one column rushed to attain to the water surface trying to find weak places among the ascending flows of air. Because of collision with the ascending flows the descending column could not localize in the center and turned to different directions of the basin; failed to attain to the water surface the cold vapor heated, became invisible and rushed up again.





### **Third phase of experiment (Fig. 42.).**

The cellophane curtain which provided the dead calm was removed from the basin, whereupon the stream of cold vapor took the horizontal direction and moved away from the basin.



At that the first stage of experiment was completed. Of course, the experimental descending air movement is not a tornado, but in the real conditions the powerful descending air column can create and concentrate on the given territory the powerful mass of clouds. In its turn during the condensation in those clouds is accumulated the power which can generate tornado under the certain conditions. In

this case the determinant of the vertical direction of tornado (from the clouds to the earth) can be the heavy descending air flow which would fall on the top of the pyramid. The Egyptians who saw this phenomenon would note: “The Ra’s boat went down on the pyramid“ (tornado).

***How can we define more precisely the role played by the pyramid:***

- **The pyramid activated tornado;**
- **The pyramid facilitated generation of tornado;**
- **The pyramid determined the vertical direction of generating tornado.**

Notwithstanding what definition is more applicable to the pyramid we can say that the Egyptians gained their point.

Let’s describe all three phases of the first stage of the experiment:

**Phase III** – the dead calm is the mandatory requirement for generation of descending air flow and further of tornado.

**Phase II** – without the uneven distribution of temperature (without pyramids and rocks) the generation of powerful descending air flow, and further of tornado, extends in time that prevents the frequent generation of tornado, because the generation of tornado requires the aggregation of several components existing in the nature. Such aggregation is very rare and limited in time. Such components cannot exist jointly for a long time and failure of one component can hamper the whole process. For example, in case the dead calm fails the formation of the descending air flow fails too.

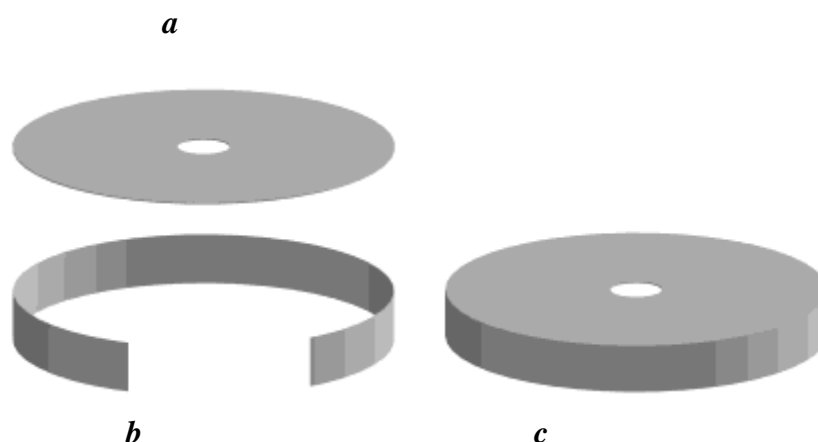
**Phase I** – the sharply uneven distribution of temperature – the cold center, warm surrounding determines the quick localization of the cold descending air in the center that in case of favorable conditions can generate the tornado.

Based on these characteristics we can conclude the following: the speed of generation of tornado determines the frequency of its occurrence in the given territory. As the quick generation of tornado is favored by the above-mentioned uneven distribution of temperature, the tornado should generate more frequently in those places worldwide where there are the objects which condition such uneven distribution of temperature – rocks, canyons hollows... In this book we have already mentioned that such territory is the North America. When we speak about American tornados we shall note first of all that the great role in their generation is played by the specific climate of this continent. If we conduct monitoring and register the localization of the powerful descending air movement above the rock in this region, we will be able to forecast tornado at the initial stage. And by equalization of temperature we will be able to decrease the cases of generation of tornados in this region.

The first stage of the experiment has shown that on the peripheries the air rises and in the center – goes down.

At the second stage of the experiment we decided to intensify air circulation during the experiment and were to interfere in this process more actively. For this was used the circle of plywood with the diameter 90 cm (*Fig. 43 a*) in the center of which was made the hole with the diameter 5 cm. Using this circle we could intensify the air movement ascending on the peripheries and descending in the center.

As we know, generation of tornado requires the dead calm. In order to prevent occurrence of horizontal air movement, at the second stage of experiment we attached the contoured plywood stripe to the plywood circle. (*Fig. 43 b*).

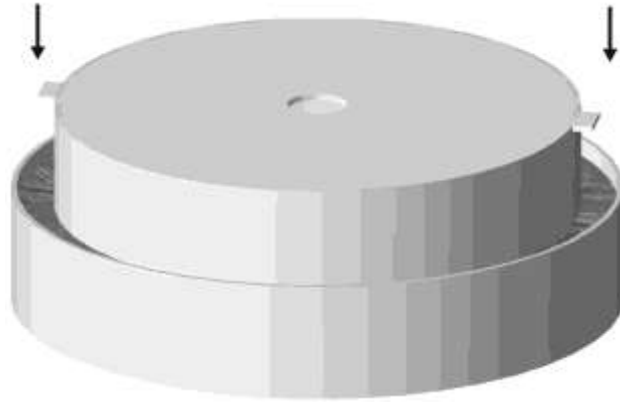


Finally the construction reminds the turned over basin with the hole in the center (*Fig. 43 c*).

*Ph. D. Gizo Vashakidze "The Personal Tornado for Pharaoh's Soul"*

The basin used by us at the first stage was filled with water. In the center, above the water we installed a small model of pyramid.

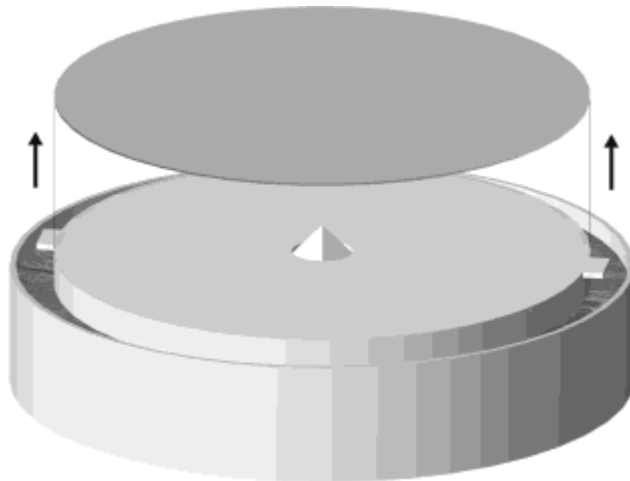
The diameter of the construction was by 10 cm less than the diameter of the basin due to which it could be put in the basin with water (Fig. 44). The height of walls of the basin and the construction was equal to 20 cm, so the construction plane was situated at the level of the water surface.



*Fig. 44*

In the hole in the upper part of the construction we can see the top of the model of pyramid installed in the water. (Fig. 45).

Above the construction was installed the plywood plain conditionally representing the clouds above the pyramid. In order to make the expected air movement more visible we used the smoke flow near the pyramid.



*Fig. 45*

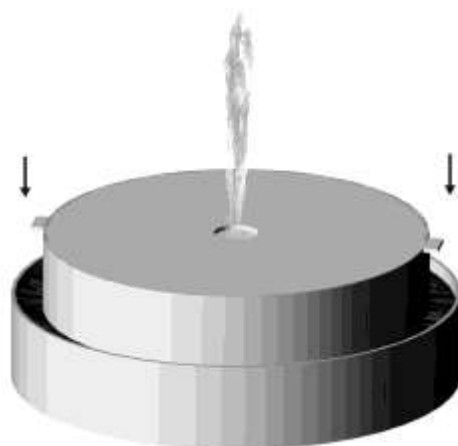
After accumulation of smoke the construction was raised up from the basin that generated the powerful ascending movement of air on peripheries. In the space between the plywood and water occurred the air deficit whereby the air under the construction rushed to the center above the pyramid. As a result of collision of air flows the air in the center gained the elephant trunk form (*Fig. 46*), in episodes it moved spirally and accompanied with the weak sound. The air flow was so powerful that it threw away the model of pyramid which was under the water. All above listed properties are typical for a real tornado. If we multiply the air velocity obtained experimentally by the difference of the size of a real pyramid and its model, we will obtain the velocity of the wind characteristic of the real tornado.



*Fig. 46. Photo made during the experiment*

For repetition of the experiment the construction was again put in the basin where we fixed the interesting fact. When we were putting the construction in the water. On peripheries, above the water the pressure increased whereby the vapor between the water and construction accumulated in the center and rushed up

(*Fig. 47*).



*Ph. D. Gizo Vashakidze "The Personal Tornado for Pharaoh's Soul"*

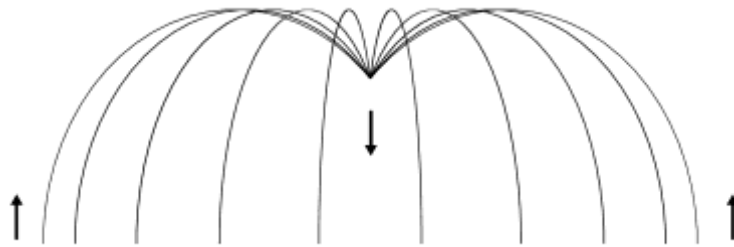
May be otherwise we would not pay attention to such ordinary way of air movement but as the purpose of the experiment was just observation over the air movement, this case was of great interest for us. AS it is known the powerful vertical air movement from the earth to the sky is also observed in the desert Sahara which neighbors Egypt. This air movement is called “dust whirl”. If in case of tornado we have passed from the theory to practical experiments, now we will try to pass from the practice to the theory and to explain what does it happen. Let’s think once more after what actions in the course of experiment is generated the air movement which is like the vertical whirl. When the construction is put in the basin the pressure on peripheries cause the descending air movement. Water prevent this movement whereupon the air accumulates in the center and with a greater power begins vertical movement up. In the nature such air movement can occur after the following temperature redistribution: warm center – cold surrounding.

The Egyptians in this case used the opposite properties of the rock and the water. If past noon the white rock, i.e. the pyramid strongly anticipates in process of cooling the water around it, in the morning when the process of heating begins, the rock, i.e. the pyramid heats quicker than the water around it. The peak of temperature gradient is attained at the afternoon and the gradient is the strongest when the rock, i.e. pyramid is of pink color, because pink stone heats stronger than the white stone. The temperature gradient of such type promotes the corresponding redistribution of pressure. Above the cold periphery when the pressure is higher, occurs the descending air movement. When having achieved the surface of water (or ground) the air mass tries to wind the way to the lower pressure area. In our case such place could be the sun heated pink pyramid Snefru. The air masses collided in the center generate dust whirls. I don’t know how the ancient Egyptians called such air movement.

The origin of the called dust whirls is more or less studies. Most often they are observed in Egypt, Palestine, Transjordan, deserts of the USA. Most often their occurrence is associated with the heating of sand ranges or rocky hills. In 1929 the dust whirl was registered at 01:00 p.m. near Moscow.<sup>14</sup> Indeed, 01:00 p.m. is the optimal time for heating of this or that part of the earth.

The provided information evidences that the pink pyramid could create air circulation similar to a dust whirl.

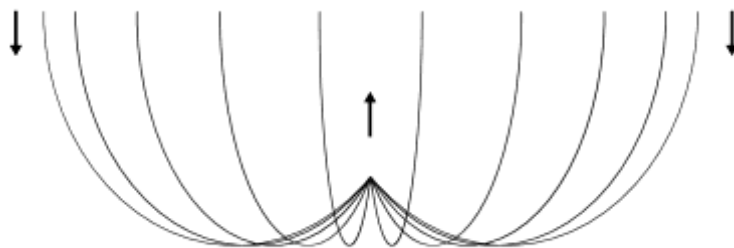
When characterizing tornado and dust whirls we obtain a very interesting picture. Let's describe the air circulation during tornado (*Fig. 48*).



*Fig. 48*

From the warm peripheries the air goes up to the clouds whereupon it turns to the center and spirally descends on the earth.

When characterizing the air circulation during dust whirls we shall not create a new figure but use the previous figure upside down (*Fig. 49*).



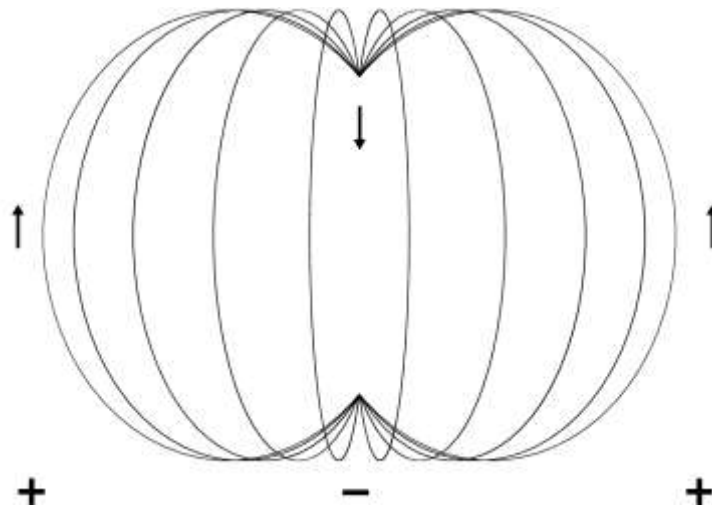
*Fig. 49*

By such we have obtained a new figure suitable for characteristics of air movement in dust whirls. The air mass drops on the cold periphery and when attained to the water or earth the air goes to the warm center and spirally rises up.

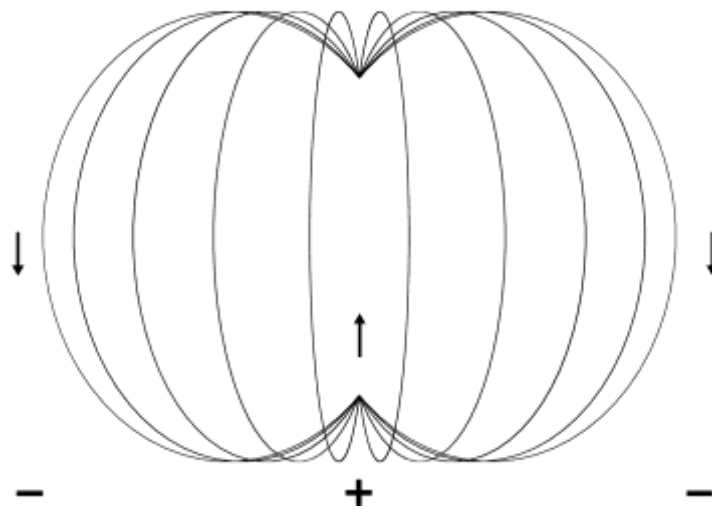
In my opinion, for both meteorological phenomena is typical the oppositely directed circulation occurring in one form when the direction of the movement determined by the opposite distribution of temperature.

In case of a tornado – the cold center, warm periphery. The ascending periphery, descending center (*Fig. 50 a*). In case of a dust whirl – the warm center, cold periphery. The descending periphery, ascending center (*Fig. 50 b*).

The situation to some extent is like the processes occurring in the electrical engine where the movement occur in one form changing the direction with the change of phases ( - + ).



*Fig.50 a*



*Fig. 50 b*

In my opinion, the movement of the same form occurs in the seas and oceans where whirlpools and water columns generate. As it is known many such phenomena are observed in the Bermudian Triangle and all of them are associated with accidents and loss of ships and aircrafts.

And finally, I would like to attract your attention to the key word often mentioned in this chapter. This word is “opposite”. Just this word is the clue to the next chapter.

## MYSTERY OF RED PYRAMID

Let's return to the pink pyramid of pharaoh Snefru and try to answer the question: why this pyramid was given the slope of 43 degree.

The pyramid wall having the slope of 43 degree reflects the afternoon solar rays to the sky (see *Fig. 6*) but not round the pyramid, i.e. at that the periphery of pyramid shall not overheat but the pyramid itself shall overheat. In such case the slope of 43° is justified.

Unlike the pink pyramid of Snefru the Menkaure's red pyramid of has not a slope of wall of 43°. We can ask why the Menkaure's red pyramid has the slope of 50°?

Above we have considered in details all those tragic peripeteia which had impact on that pyramid. We can assume that the Menkaure's pyramid had been initially designed as a white pyramid with the slope typical for white pyramids (50°) but then the death of the young pharaoh changed the plans and purposes of the priests. Let's consider this situation once more.

The pharaoh died long before the completion of construction of his pyramid and many years his body should be kept not in the pyramid under construction but in another temporary place. We know that after forty days the soul leaves the body and the Egyptian priests should know that after many years "ka" would leave Menkaure's body. The construction of pyramid was completed and then Menkaure's body was taken inside it. The generation of tornado for the body without "ka" was senseless. Therefore, at the final stage of construction of pyramid the plans could be changed and it could be faced with not white but red stone generating a more peaceful air movement, the so called dust whirl. At that the slope of the built blocks could not be changed. Let's assume that this consideration is true. But then we can ask why the body without "ka" needs a dust whirl?

This question can be asked about not only pharaoh Menkaure, but to the pharaoh Snefru. If the Ra's boat went down on the white pyramid of Snefru and took "ka" of the pharaoh, why the soulless body of the pharaoh should be taken to the pink pyramid which could cause a dust whirl for nothing could be taken from the soulless body. Therefore, if we assume that the dust whirl was generated for ascending of souls it will be a mistake. In my opinion, the only answer which is admissible for both red pyramids proceeds from the following consideration. Let's remember what phenomena proceed the generation of dust whirls unlike the tornado:



- opposite time of day;
- opposite redistribution of temperatures;
- opposite redistribution of pressure;
- opposite movement of air masses.

As we see in comparison of those phenomena the word “opposite” dominates. Hence, may be the idea of raising tornado and idea of raising dust whirls are also opposite to each other by their meaning? Therefore, if the tornado ascended the soul to the sky then the opposite action, the opposite air movement in case of dust whirls returned the soul from the sky to the pharaoh’s body. As we know the Egyptians embalmed the body believing that the soul will come back and the body will arise from dead. May be the Egyptians considered that the soul comes back together with the descending air masses. After approaching the earth the soul accompanied with the air moved to the warm center attacking the red pyramid from all sides of periphery. It should be noted that when embalming the dead body the Egyptians used to leave the mouth line open as they thought that the soul would return to the body through this hole.

In connection with return of the soul the interesting is the information described by Maspero:<sup>15</sup>

“In order to raise a mummy they take a facecloth to its nostrils and reproduce the fuff”.

If such fuff was created for an ordinary mummy than it is not strange that a whirlwind was created for a pharaoh. By this way we can answer many questions, including why one pharaoh Snefru required two pyramids.

The foregoing evidence once more that the Egyptians believed in the immortality of soul which circulates between the earth and over world.



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*To the Experts Board for Academic Degrees*

*Of the Academy of Sciences of Georgia*

## **REVIEW**

**On Gizo Vashakidze Ph. D. Thesis in Geography Presented in Kind of Book**

**“Personal Tornado for Pharaoh’s Soul”**

I’ve read the book of Gizo Vashakidze with interest. Based on the thorough analysis of many historical documents describing the life and religions of ancient Egypt the author proposes the original concept about the purpose of pyramids as not only the places of burial of pharaohs but as the means of communication of pharaoh’s souls with the other world. The analysis of details of pyramid construction made by the author has revealed the possibilities for souls of pharaohs to communicate with the heaven by means of tornados and dust whirls generated above the pyramids. The first serve for ascension of souls while the second – for return of souls into the preserved bodies – mummies for the further reincarnation of pharaohs.

This concept is quite original and new but it is rather grounded historically. To prove the probability of generation of such hydrodynamic phenomena above the pyramids or near them the author brings the climate data of Egypt 4-5 thousand years ago. Then, according to the paleoclimatic reconstructions the climate of Egypt was much damper than now, the Nile was more full-flowing and during its overflow flooded the vast territories for 3-4 months each year. The Giza pyramids looked like islands over the lakes that time. The analysis of conditions of their illumination and color of facing stone show that they could be more or less heated as compared with the environment (water or land depending on the season). From the clouds above could be generated a tornado or whirl which when descending from above could touch the pyramid top “Ra’s Boat” and take the pharaoh’s soul to the heaven. In dry seasons near pyramids generates a dust whirlwind.

*Ph. D. Gizo Vashakidze "The Personal Tornado for Pharaoh's Soul"*

To prove those ideas the author set up grounded laboratory experiments which confirm those arguments in a high-quality manner that shows the probability of generation of both the downburst whirlwind and ascending vortexes.

If the author sought for the PhD in physics and mathematics, to complete the work he should build and evaluate the similarity numbers in the experiments, assess them and compare the values in laboratory experiments and in natural conditions. This is a nontrivial problem. So, this comment should be understood as a wish for future.

In whole the work performed comes out strong by the depth of analysis of historical facts and references to ancient Egypt and religions of that time. The smart and detailed experiments illustrate in a correct and complete manner the original and interesting ideas of G. Vashakidze.

I am not aware of the thesis requirements in Georgia but I believe that the Experts Board would be right if it confer to Gizo Vashakidze not only the PhD degree but the doctor's degree in geography for this cross-disciplinary work: history, geography, physics of atmosphere.

*Signed*

**22.10.2004**

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В Совет экспертов  
Академии наук Грузии  
по защите диссертаций

#### ОТЗЫВ

на диссертацию Гизо Вашакидзе, представленную в виде книги "Персональное торнадо для духа фараона" на соискание учёной степени кандидата географических наук.

Я с интересом прочёл книгу Гизо Вашакидзе. На основе тщательного анализа многих исторических документов, освещающих жизнь и религиозные верования древнего Египта, автор предлагает оригинальную концепцию о назначении пирамид не только как мест захоронения фараонов, но и как средство сообщения душ этих фараонов с потусторонним миром. Анализ деталей строения пирамид, проведённый автором, выявил возможности для душ фараонов сообщаться с небом при помощи образующихся над ними торнадо, а потом и пыльных вихрей. Первые служат для вознесения душ, а вторые – для возврата душ в сохранившиеся тела – мумии для последующего оживления фараонов.


Концепция необычная и новая, но достаточно исторически обоснована. Для обоснования, что над пирамидами, или рядом с ними могут образовываться такие гидродинамические явления, привлекаются данные о климате Египта 4-5 тысяч лет тому назад. Тогда, по палеоклиматическим реконструкциям, климат Египта был гораздо более влажным, чем сейчас, Нил более полноводным, и во время его разливов затопливал обширные территории на 3-4 месяца каждый год. Пирамиды в Гизе в это время выглядели, как острова над озёрами. Анализ условий их освещённости и цвета облицовочного камня показывает, что они могли быть более, или менее, нагретыми по сравнению с окружающей средой (водой или сушей, в зависимости от времени года). При наличии облаков из них может образовываться торнадо или смерч, который, опускаясь сверху, мог касаться вершины пирамиды – "ладья бога Ра" – и забирать на небо душу фараона. В сухое время года вблизи пирамид образуется пыльный вихрь.

Для обоснования этих идей были поставлены разумные лабораторные эксперименты, качественно подтверждающие эти соображения, которые показывают возможность образования как нисходящих смерчей, так и восходящих вихрей.

Если бы автор претендовал на физико-математические науки, то для завершения работы ему следовало бы построить и оценить параметры подобия в его экспериментах, оценить их и сопоставить значения в лабораторных экспериментах и в природных условиях. Это нетривиальная задача. Поэтому данное замечание следует воспринимать в виде пожелания на будущее.

В целом проделанная работа производит большое и хорошее впечатление глубиной анализа исторических фактов и документов, относящихся к древнему Египту и к религиозным верованиям того времени. Остроумно и тщательно поставленные эксперименты, качественно правильно иллюстрируют оригинальные и интересные идеи Г. Вашакидзе.

Я не знаком с требованиями в Грузии, предъявляемыми к диссертациям, но думаю, что Совет экспертов не сделал бы ошибки, если бы присудил Гизо Вашакидзе не только кандидатскую, но и докторскую степень по географическим наукам за эту работу, находящуюся на стыке ряда наук: истории, географии, физики атмосферы.

  
22.10.04

Ph. D. Gizo Vashakidze "The Personal Tornado for Pharaoh's Soul"



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August 6, 2004

*Professor George Managadze*

**R E V I E W**

Monograph of Gizo Vashakidze “Personal Tornado for Pharaoh’s Soul” is devoted to one of the ancient and interesting problems of the history of civilization, the eternal and actual problem connected with the secret of the Egyptian pyramids.

In spite of many efforts made by other researchers before and many proposed versions in this issue, the monograph’s author has succeeded to find a new, fresh and robust version of solution of the purpose of pyramids and the complex confirmation of the proposed hypothesis using the data from various fields of expertise.

So, for confirmation of this idea the author in a proficient and convincing manner uses so far apart fields as the history of ancient Egypt, theology, meteorology, linguistics, hieroglyphics and laboratory simulation of processes in the atmosphere.

Based on the information from the history of ancient Egypt and on the data of climatic peculiarities in that period of history in the territory of this country the author clearly demonstrates the real probability of occurrence of tornado in that time.

Such grandiose and large-scale natural phenomenon as tornado connected with the powerful ascending air whirl, in ancient Egypt, in the author’s opinion, should be identified with the ascension of the pharaoh’s soul. This is adequately decisive as it is hard to find such other powerful ascending whirls in the nature.

Being aware of the peculiarities of the relief of the place where tornadoes were observed most often, the ancient Egyptian scientists could create the artificial ground for tornado generation by means of the heated surface and cold pyramid.

We can assume that artificially created such relief of the territory could provide in fact the conditions for generation and development of the initial whirl which further could transform into the powerful tornado provided that the surrounding atmosphere was prepared for the development of global process.

There are a number of analogues of large-scale and global processes in the nature when a relatively small but specially selected purposeful impact generates the powerful release of energy. At that the energy of the initiating impact could be by million or billion times less as compared with the final energy of the release. We have the special name for such small impact – the release mechanism. The most dramatic example is the generation of the powerful aurora or geomagnetic storm under the impact of the low-power electromagnetic waves artificially generated from the Earth surface, or the destructive avalanche in the mountains caused by a shot from a gun or by a shout.

The monograph is mainly based on the proven scientific data and facts from the history of ancient Egypt and results of the laboratory simulation.

This provides a real possibility to use the new concept presented in the monograph within preparation of a number of scientific works.

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**ОТЗЫВ**

Монография Гизо Вашакидзе «Персональное торнадо для духа фараона» посвящена одной из наиболее древних и интересных проблем истории цивилизации – проблеме вечной и актуальной, связанной с разгадкой назначения египетских пирамид.

Несмотря на многочисленные попытки, предпринятые ранее другими исследователями и множество предложенных версий по этому вопросу, автору монографии удалось найти новую, свежую и разумную версию разгадки назначения пирамид и найти комплексное подтверждение предложенной гипотезы с использованием данных из различных областей знаний.

Так, для подтверждения своей идеи, автор умело, убедительно и со знанием вопроса использует такие далекие друг от друга области, какими являются история древнего Египта, теология, метеорология, языкознание, иероглифика и лабораторное моделирование процессов в атмосфере.

Опираясь на информацию из истории древнего Египта, а так же на наблюдения о климатических особенностях в этот период времени на территории этой страны, автор наглядно демонстрирует реальную возможность возникновения торнадо в те времена.

Такое грандиозное и масштабное природное явление как торнадо, связанное с мощным восходящим потоком воздуха, в древнем Египте, по мнению автора, должно было отождествляться с вознесением духа фараона. Это достаточно убедительно, так как в природе трудно найти аналогичные столь мощные восходящие вихри.

Зная особенности рельефа местности, где наиболее часто наблюдались торнадо, ученые древнего Египта могли создать искусственно полигон для генерации торнадо с помощью нагретой поверхности и холодной пирамиды.

Можно предположить, что созданный искусственно такой рельеф местности в действительности мог обеспечивать условия для зарождения и развития начального вихря, который мог позже трансформироваться в мощное торнадо при условии, что окружающая атмосфера была подготовлена для развития глобального процесса.

В природе существует целый ряд аналогов крупномасштабных и глобальных процессов, когда относительно малое, но специально подобранное целенаправленное воздействие вызывает мощный сброс энергии. При этом энергия инициирующего воздействия может быть в миллион или миллиард раз меньше по сравнению с конечной энергией сброса. Имеется и специальное название такого малого воздействия – спусковой механизм. Наиболее яркий пример – генерация мощного полярного сияния или геомагнитной бури под воздействием генерируемых искусственно с поверхности Земли электромагнитных волн малой мощности. Или разрушительная снежная лавина в горах, вызванная выстрелом из ружья или криком.

Монография преимущественно основана на достоверных научных данных и фактах из истории древнего Египта и результатах лабораторного моделирования. Это предоставляет реальную возможность использовать опубликованную в монографии новую концепцию для подготовки ряда научных публикаций.

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