The Experiment on Revealing of Occult Properties of a Stone Labyrinth

by Sergey Smelyakov

The first part of the e-book The Stone Portals, posted in 2017, presents an analytical study of the respective artefacts, including their astronomical, metrological, geometric and other properties, as well as occult features.

This, second part (www.astrotheos.com/EPage_Portal_HOME.htm), presents the stone labyrinth that was designed and built (Chapter 10) in compliance with the revealed properties of such artefacts; in particular – for carrying out the experiment (Chapter 11) with the aim to test whether this structure does actually represent a Stone Portal exerting the occult properties, or not.

As a result of the conducted experiment, the subjective and objective data were obtained, pertaining to (1) operators' perceptions and (2) measurements of their aura and chakras energy potential during passage of the labyrinth, which are reflected in the Summary of perceptions and in the Album of Aura Photos. The quantitative and qualitative analysis of these data give the evidence that the presence of an operator in the labyrinth is characterized by a high stability of occult effects: perception of energy, information, space and time, changes in aura colour and energy, healing of a wide range of diseases.

As well, it was confirmed that this Portal also strengthened the influence of transit planets when they passed definite positions; in this respect it presents a kind of astrological tool that permits to exert the predicted influence on a person who, at the proper moment, resides in the labyrinth. Besides, the Portal also allows establishing interaction with sacral objects located on all continents, including the pyramids, temples and shrines of India, Egypt and America (belonging to Incas, Toltecs and Maya).

On the whole, the obtained results confirm the occult effectiveness of the analyzed labyrinth, thus allowing to consider it to present a Stone Portal understood as occult instrument promoting the manifestation of a wide range of spatio-temporal and energy-informational phenomena.

Chapter 10: The Analytical and Occult Aspects of the Stone Labyrinth Design

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Part II. The Experiment

Chapter 10. The Analytical and Occult Aspects of the Stone Labyrinth Design

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Part II. The Experiment

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Part II. The Experiment

Chapter 10. The analytical and occult aspects of the Stone Labyrinth design

Part II, which includes Chapters 10 and 11, describes the construction {→ 10}, as well as the conditions and results of the experiment {→ 11}, carried out on a stone structure constructed by the author of this work. According to the classification of Stone Portals {→ 1}, this structure presents a Labyrinth-dike {→ 1.4.2}. However, since in the corresponding literature such objects, which are most numerous in the Northern Europe, from Iceland to Western Siberia and Novaya Zemlya (New Land), are commonly called the Stone Labyrinths, we use namely this term, or Labyrinth – ***for short***.

The Stone Labyrinths themselves, in relation to their typical forms, myths and occult properties, are considered in Chap. 8, and their metrological and geometric properties are studied in Chap. 9. But by the time this Chapter is published, they are available only in Russian, as the Chaps. 3 – 7.

Note also, that the considered labyrinth is of the spiral type which presents {→ 8} one of the four main types of stone labyrinths {→ Fig. 1.6 of Chap.1}.

10.1. The goal of construction of the Stone Labyrinth

The purpose *of* designing and building a spiral labyrinth consisted primarily in ***establishing***, on the basis of carrying out experiments with it, ***whether it possessed*** the properties of the Stone Portals, which, according to the "theoretical" analysis {→ Part I}, are generally inherent in artefacts of the considered types ***in relation to*** energy-information, space-time and healing effects.

If such effects were not manifested in it, then this could testify both to the ineffectiveness of the constructed object, and to the doubtfulness of the conclusions about their potential effectiveness in this respect.

But the facts are such that in the constructed spiral labyrinth all these properties ***have been manifested***, which allows us ***to treat it as*** the Stone Portal {→ 1.2}. However, as one would expect, the degree of their manifestation depends on many factors, both objective and subjective.

Therefore, it has arisen the task of studying the properties of this Portal and the peculiarities of its impact on people, which in this respect are further ***referred to as*** Operators, taking into account their age, the level of development of esoteric abilities, and other conditions.

At the same time, in order to study the impact of this Portal on people, special measures were taken to eliminate the negative impact of unfavourable energies and essences of the lower layers of the subtle Planes.

To meet this requirement, certain decisions have been made with respect to the labyrinth project, and some organizational measures are envisaged for the conduct of the experiments.

The design decisions are based primarily on the basic provisions of The Secret Doctrine [21] and astrological considerations, and in some cases on the standard versions of artefact projects identified in the First Part of this work.

In developing the procedures for the passage of the labyrinth, we proceeded from the premise that any occult impact on a person, even if it does not potentially have a negative component, can lead to unfavourable consequences, at least because of its excessiveness, and therefore, firstly, the ancient recommendations regarding the use of labyrinths and spirals, both stone dikes and symbols (first of all – the undesirability of their passage by pregnant and small children, and the limited time - for adolescents); Secondly, the general considerations about moderation and gradualness.

Speaking esoterically, we are talking about developing a project and building a Stone Portal as an object that is supposed to provide the interaction of the operator with Subtle Planes, that, on the one hand, can manifest itself in healing, as well as in energy-informational and space-temporal effects according to the operator's susceptibility to influence of subtle Planes and other circumstances, while, on the other hand, excludes the influence of unfavourable energies and entities of lower Subtle Planes.

At the same time, the selection of operators is supposed to be done in such a way that their set to include those (i) who have more or less stable experience of interaction with the Subtle Planes with regard to clairvoyance, perception of energies, healing, etc., (ii) for whom such manifestations appear sporadically and/or who are studying the Occult Teaching systematically, and (iii) who have not experienced such perceptions at all. For definiteness, the operators of these groups are called the Sensitives, Esoterists and Pragmatics, respectively {→ 11}.

Since the experiments were conducted on condition that names would not be disclosed, in the Summary of operators' perceptions {→ 11.2} and subsequent analysis of these data {→ 11.3}, each operator was assigned the number with the associated letter (S, E or P – for Sensitive, Esoterist and Pragmatic, resp.); for example, my colleague sensitive is referred to by the number #2S.

In particular, to the Sensitives were related those who, by experience of communication with the author of this work, in one form or another have manifested the relatively high stability of their energy-informational and/or space-temporal perceptions of the Subtle Planes, irrespective of the Portal, in relation to the health of a person, peculiar events, etc. The adequacy of their assessments was tested to the extent it was possible to verify them according to their essence – by correlating them with the independent testimonies of other Sensitives and doctors, fulfilment of the forecasts, et al.

At this, an information received from a separate sensitive is not considered to present absolute argument in favour of the Portal's effectiveness, but is important in that it reveals the peculiarities of the Portal's energy structure, as well as its other aspects which although manifested in some perceptions of Esoterists and Pragmatics, but not in details. It is namely the stability and co-ordination of perceptions of Sensitives, Esoterists and pragmatics which give the main argument of an objective character, in view of its statistical substantiation {→ 11.3}, in favour of the occult effectiveness of the labyrinth as Portal.

And although by its very nature, most of the perceived effects of the Portal impacts are subjective, since they reflect personal perceptions of space-time, information and energy, for which there are no physical means for verification of Portal's influence, there are also objective confirmations of the occult effectiveness of the considered labyrinth, which are associated with the healing effects, and are acknowledged by the analysis of photographs reflecting the psychophysiological state of operators, that describe the aura colours {→ 11}.

Namely, a comparison of these photographs, on which the operator is taken before and after passing the labyrinth, shows a steady shift of the primary colour of the aura up the spectrum by approximately one colour or tone (green turns pale blue or indigo, etc.), and also the energy growth {→ 11}.

Thus, on the way to achieving the stated goal, the first stage is to develop a labyrinth project and to build it; how it has been done is described in this Chapter, whereas the next one describes the conditions under which the series of experiments were conducted, the obtained subjective and objective results, and their verbal and probabilistic analysis.

10.2. The basic principles laid down in the labyrinth project

* Selection of the labyrinth type

To construct the object presenting a Portal, a labyrinth of the spiral type was chosen.

As shown in Part I, the stone portals of other types manifest the occult properties as well, and therefore are also worthy of study. But if in the considered experiment we confine ourselves to studying the properties of the stone labyrinth (as a category of Stone Portals) because of the author's building capabilities, the choice of the spiral type is explained by the following considerations.

This grapheme is widely distributed in the world, both as a symbol {→ 3}, and as a labyrinth {→ Fig. 1.6.a, Chap. 1} in the forms of petroglyph and dike-like stone construction. Unlike other types of

labyrinths, the energy flow circulates in it in spiral {→ 3, 7, 8}, freely interacting with the surrounding space, whereas other constructions either occultly isolate the internal area (as in the case of a circle), or create the effects the occult influence of which is not quite clear (Chakravyuha, classical, etc. – See Fig. 1.6.a, Chap. 1). Besides, the spiral presents the structural essence of Time. Last, not least, the use of a spiral is turned out to be most conducive to realizations of the definite provisions of The Secret Doctrine [21] relative to the energy flows in the Subtle Planes.

As a result, and the experiments have confirmed this, the clearly expressed and reproducible occult properties observed at such specially tuned spiral-type Portal-labyrinth are accessible to perception of those who have no stable extrasensory abilities, and even to materialistic people (at least, with respect to healing), who have no idea about esotery at all and, generally, are sceptic relative to the occult influences. All together, this makes the Stone Portals a kind of occult instrument that opens the gate into other dimensions.

* Selection of material for construction of labyrinth

As a building material, granite is chosen – a typical material the variety of which are traditionally used for construction of Stone Portals or their basic elements; for example, for the building of sacred premises in Passage Mounds and pyramids {→ 2}. It can be assumed that the main significance in this case is its crystalline nature, which favours the accumulation of magnetic influences of the Subtle Planes.

For this reason, in the special places of the constructed labyrinth, the elements bearing sacral magnetism of the places of their origin (Manali, Himalayas) or consecration (The Great Pyramid in Giza) are mounted.

* The principle of choosing analytical properties for their reflection in the project of labyrinth

The development of the project of spiral labyrinth, including its geodetic and astronomic attachment to the site, is based on the use of the known and revealed analytic properties of the Stone Portals of different types that are described in Part I of this work, as well as on some concepts of The Secret Doctrine [21].

Meanwhile, the choice of the properties to be imbedded into the project was done not "mechanically", by integrating into the project everything that is only known or possible, but so that the properties included would contribute to the fulfilment by the labyrinth of its functional purpose: to operate as a Portal.

10.3. The basic symbols and forms embedded in the project of the labyrinth

Remind that analytical properties can determine the geometric, metrological, geodesic, astronomical and other numerically described characteristics of the object. At this, in view of the foregoing, out of the possible variants for the dimensions, shapes and orientations for the labyrinth those are chosen that not just typical for artefacts but correspond to specific or general provisions of the Secret Doctrine or occult considerations, and so as to maximize the energy potential of the Portal, on the one hand, and, on the other hand, to minimize the possibility of amplifying in it the energies of low vibrations and the manifestation through it of all kinds of dubious essences (“dwarfs”, “ghosts”, etc.) living in the lower areas of the Subtle planes.

Although it is impossible to deny the possibility of occurrence of such effects in the constructed labyrinth, we can honestly say that, as observations of the labyrinth and experiments with it have shown, there is no reason to believe that the specified requirement was not satisfied; in any case, no cases of such adverse manifestations have been recorded.

In the light of these criteria, alternative options appeared in many aspects of the project (for example, to twist the spiral to the right or to the left). And since we know practically nothing, for what reasons, in this or that variant of an artefact, the decision was made, blind copying of the existing analogues was considered meaningless, especially under the conditions of the existence of alternative variants.

That is why, most of the variants of the design solutions adopted on the basis of the above criteria were further compared with the alternative ones based on assessments of Sensitive #2S with respect to the quantitative and qualitative characteristics of the influence, which they contribute in energy potential and in other respects. It turned out that the proposed project options, based on the properties of the most sacred artefacts (the Great Pyramid, etc.) and the concepts of the Secret Doctrine, were generally optimal

according to the accepted criteria (maximizing energy efficiency and minimizing negative influence). The changes were mainly concerned with technical issues (number of turns, possible marking of stones, etc.).

Later, after the spiral labyrinth has been built, Sensitive #2S appreciated its actual properties as of Portal; in particular - regarding the effectuality of charging the water with energy, labyrinth's occult tuning to various artefacts of the world, et al.

At the same time, it must be remembered that since this work can fall into the hands of those who purposely or unintentionally want to use this information in unseemly goals, a number of details regarding the construction of the given labyrinth, as well as some rituals of working with it, in this text are not given; if required, I can report them personally, as it was recommended to me.

Consider now the main project decisions regarding the shape, dimensions and orientation of the built Spiral Labyrinth. Pay attention that some symbols and analytical relations are reflected in different aspects – physically, in form and in another way.

In order not to overload the drawings, where it is not important, the spiral is indicated by two turns.

10.3.1. The form of the spiral labyrinth and correlated symbols

* Direction of twist of the spiral. Of the two possible directions of twist of the spiral, the one that corresponds to the turn to the right is selected, if viewed from the entrance (Fig. 10.1.a).

The source consideration: with the beginning of the passage of the labyrinth, this direction corresponds to the "right" path (i.e., the operator goes to the right) from the entrance to the centre of the labyrinth.

According to Sensitive # 2S, this direction increases the quality of energy in relation to the shift of vibrations to higher spheres of the Subtle Planes (i.e. to the area of higher Mental and Spiritual Planes). The reverse direction (Fig. 10.1.b) lowers the level of vibrations towards the physical Plane, which may be required to solve practical problems.

a b

Fig. 10.1. Possible directions of twisting of the spiral on the plane

* The number of turns of the spiral. Initially, it was planned that the spiral would have 7 full turns, according to the seven Planes of being and the septenary representation of all occult symbols. Analyzing this option, Sensitive # 2S said that to perceive the influence of the Portal by an operator that does not have explicit extrasensory capabilities, 3 to 4 full turns of the spiral will be enough, and for the author of this project, 6 to 7 coils will suffice. If these conditions are met, an elevated state will be reached at the centre of the spiral; otherwise, the energy may have a "pressure" effect on the operator.

Therefore, in order not to overload operators with the might of the Portal, and at the same time – to obtain 7 turns, a compromise solution was adopted, consisting in using a separately located 7th coil representing the symbol *G* [27], as shown in Fig. 10.2.

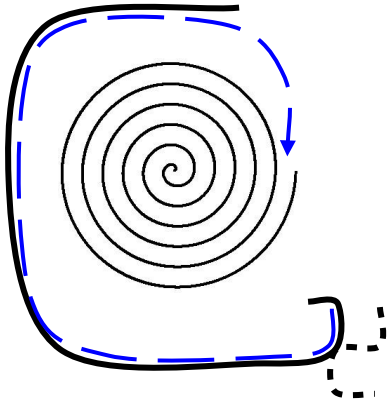


Fig. 10.2. Scheme of passing of 7 turns: first along the paved track (letter-symbol G), and then – along the path of the spiral labyrinth itself

Note. In the below consideration the passage is understood as passing of the 6 turns of the stone labyrinth; if passage includes the outer, G-track, it is specified explicitly, as passage of 7 turns.

With regard to the combination of numbers 6 and 7, as well as the symbol G, note the following.

* Symbol G and swastika. Notice that the letter-symbol G has a series of proper occult values [21, 27], and in this it is closely related to the spiral {→ 3} and the swastika [37]; in particular, with respect to the mapping of the structure of the energy flows of Subtle Planes. From this point of view, the unification and interaction of the G-shaped curve and the spiral can be considered esoterically consistent, as well as the location of the first, which, in particular, symbolizes the energies of the Cosmos, around the spiral.

* Numbers 6 and 7 are in many respects interconnected; in particular, in a number of cases the seventh symbolizes the synthesis of six elements [21]. With regard to the interaction of this Spiral Portal with an Operator, this is also said by Sensitive #2S {→11.2}, and the "Ancient Empire of China", where J. Massey notes that "Six - seven" are mobile and interchangeable numbers, closely related to each other in any religious symbolism; and that there are seven circles near Mount Meru and six parallel ridges around it; seven manifestations of light and only six days of creation, etc. The mystery of the "double sky" is one of the oldest and most cabbalistic, and six halls, vestibules, etc. in most of the ancient temples, with the priest performing the divine service, symbolizing the sun and the seventh character, can be called just one example from a vast array of similar symbols.

* The principle of installing stones: "Crystal Mirror" and "Mountain". The granite stones were placed close to each other, and so that their largest flat face was directed towards the centre of the spiral and, on the average, along tangential to the line that determines the curve of the mathematical function determining the shape of the spiral (Fig. 10.3.a).

At this, by the height the stones are installed so that the envelope of their peaks has a slope to the periphery of the spiral, as a result of which the whole construction of the labyrinth forms a "mountain" (Fig. 10.3.a).

The both of these aspects of installing the stones were evaluated by Sensitive #2S as such that promote the Labyrinth in performing its occult destination.

To ensure the stability of the stones, they were installed on cement mortar put on a sand cushion several centimetres thick.

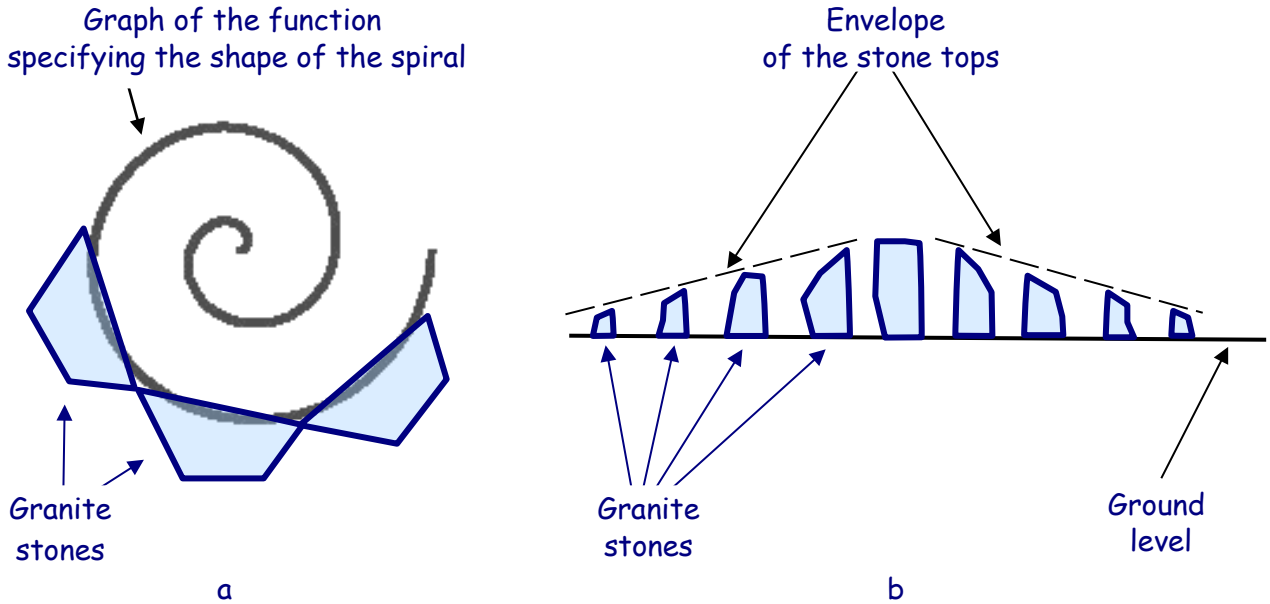


Fig. 10.3. The scheme of installing stones for the formation of the "Crystal Mirror" and "Mountain"

* The colour of the stones. To strengthen the manifestation of the axes of the labyrinth, it was supposed to install the red granite stones in the places of their intersection with the graph of the spiral. But according to

Sensitive #2S, this would contribute to dissipation of the energy flow. Therefore, this option was not implemented. At the same time, he estimated the installation of such stones along the perimeter (or along the spiral) as favourable, which was reflected in the selection of stones for laying out the stone dike.

10.3.2. The Centre of the Labyrinth

* The energy focus of the Labyrinth. According to the esoteric data and evidence of Sensitives, the centre of the spiral presents the focus of its influence, in particular, the point of energy concentration. Therefore, it was natural to expect that the installation in this place of particularly significant symbols and magnetized objects would contribute to transfer of their features to the energy of the entire Portal, as well as to establishing a magnetic link with the places of their origin.

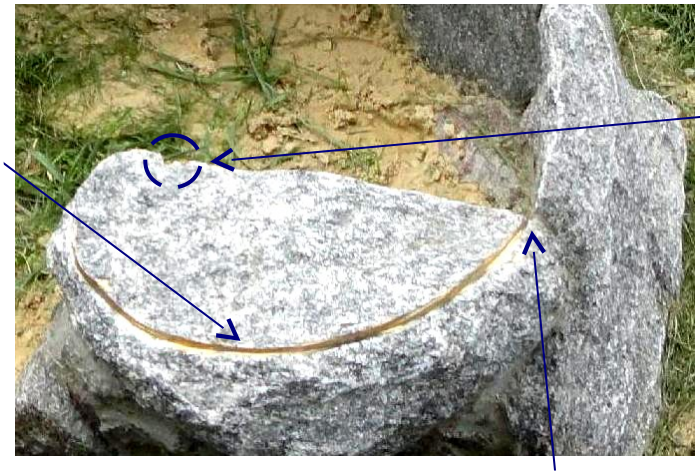
But the centre is a relative concept. In a broad sense, this is the place around the initial point of the spiral, where a person can stand, or the Central Stone; in the narrow sense, it is the "Central Point" itself, in which the spiral begins mathematically.

As for the place, no special comment is required, except in what geographical direction the operator's face is oriented, whether he sits on this stone or stands before it, etc. This question is considered below.

* The Central stone, by reasoning from aforesaid, is regarded as the energy focus of the labyrinth, and therefore it was natural to use it so that it would contributes to amplification of occult effectiveness of the Portal. For this purpose, the following design solutions were implemented in its construction.

→ Coupling the Central Stone with the "crystal mirror" is designed to provide high accuracy in mapping the mathematical shape of the spiral in granite at the interval from its origin (the Central Point) to the first stone of the dike that adjoins the central stone. The coupling principle is explained in Fig. 10.4.

The spiral surface, carved on the Central Stone (painted with bronze) specifies the starting part of the graph of the peculiar Spiral, from the Central point to the Junction point, where the first stone of the dike touches the Central stone; further on, this graph is continued by the crystal mirror (or rather by its projection to the plane), beginning with the junction point



The "Central point" on the Central stone is represented by a vertically arranged cylindrical groove, the upper part of which is seen on the photograph as an arc in the center of the blue circle

The Junction point of the spiral where its "crystal mirror" part composed of dike stones transfers into the spiral engraved on the Central stone by precisely following the form of the chosen spiral equation

Fig. 10.4. Coupling the Central Stone with the "crystal mirror"

(The photo was taken immediately after the completion of the construction; I hope that an abundance of sand does not bother you)

* The Last stone, standing at the entrance, is about twice as tall as the average height of the stones of the outer row, and the preceding two – gradually reduce their size to the average height of the stones of this row. This is done by analogy with the arrangement of artefacts in Northern Europe: larger stones at the entrances of stone labyrinths {→ 8} and Portal plates in the Passage Mounds {→ 2}.

* Occultly magnetized objects. In order to establish a permanent Subtle Plane connection of the Portal with sacred sites, two associate objects were imbedded in the stone labyrinth:

→ The symbol Tau (or Ankh, "Cross with a handle" ☥ {→ 7}), which was consecrated in the font of initiation {→ 2.9.1.9, Fig. 2. 73} ***in*** the Great Pyramid at Giza;

→ The crystalline mineral ***from*** the bank of Beas river at Manali (Himalayas) – one of the Spiritual Centres, through which Manus of the Vth (Aryan) Root Race descended to Northern India [21].

> Manus (Sk.). The fourteen Manus are the patrons or guardians of the Race cycles in a Manvantara, or Day of Brahmâ. The primeval Manus are seven, they become fourteen in the Purânas. [35]

10.3.3. Setting up the Portal for especially meaningful directions and artefacts of world significance

* The choice of geographic and astronomical axes of the labyrinth. For cromlechs {→ 4} and pyramids {→ 2}, it is typical that an artefact is aligned along a cardinal geographical direction (N-S, E-W, or other one), or along an azimuth that determines the point of sunrise and/or sunset at the equinoxes, solstice, or Auric-cardinal point of Ecliptic, or with respect to some other objects.

These alignments were usually carried out by setting up to the specific directions their axes, diagonals or other constructive elements, in some cases – with the use of stone or wooden markers disposed within the stone construction and aside of it. And these directions defined the survey lines indicating the azimuths to the points of horizon or direction to the respective point of the Celestial sphere, where the appearing of the Sun, Moon or other heavenly body denoted the respective critical moment or day. Although there are reasons to believe that we know, but not all the astronomical settings of cromlechs and pyramids, just because some markers could have been lost or not identified.

In accordance with these data and esoteric considerations, the geographical axes of the labyrinth were aligned to geographic directions {→ 10.4}, whereas it vertical axis – tied to the Earth's axis {→ 10.6}

Even these alignments of the labyrinth axes allows us to make use of a series of astrological features of the Portal; for example, for specifying the periods of strengthening of its occult influence, the aspects of which are defined by the configuration of the celestial bodies {→ 10.7}.

Meanwhile, apart from these permanent alignments, the markers and removable amplifiers are used as well.

* Geodetic markers. As a rule, the Archeoastronomy is studying the markers as the objects which specify a survey line pointing to a visible object; e.g. the rising Sun. However, we cannot exclude that a marker, and not necessarily stationary, could also be used for specifying an object invisible from the labyrinth for establishing a contact with it in the Subtle Planes.

Therefore, by proceeding from that the Portals were often associated with some remote objects, to which special importance was attached, we assumed that by analogy, the markers specifying directions to certain objects not lying in the field of view of the stone portal could be specified as well.

And although this direction has a specific azimuth at the portal location, it must be determined geodetically – by a great circle of the earth's sphere, which connects the portal and the object that interests us along the shortest curve lying on the earth's surface, which is called the geodetic line. Note that even if these two points lie at the same latitude, differing from the equator, this direction will not have the azimuth of the East or the West.

In order to specify such a direction, the corresponding azimuth must be calculated by the formulas of spherical trigonometry. And if we turn to the metrological and geodetic properties of the Mesoamerica pyramids, as well as the Great Pyramid at Giza, which show very precise parameters even of the elliptic model of geoid, then we may well admit that the ancient builders of stone portals were possessed of this knowledge. Besides, we can note that this concept has been confirmed in the Experiment {→ 11}.

What is more after the Experiment was completed, an information had come from Sensitive {→ 11.2}, that in some way this idea was used by Incas; the subsequent analysis has shown that to the great probability the Incas used the markers of their Ceque system as in this concept of geodetic markers {→ 12}.

Since we do not associate the Portal with other markers, except the geodesic ones which indicate the directions to remote objects and geographic directions of the world, for brevity we call them simply markers. They should not be confused with the markers intended for marking the building ground {→10.9, 10.10}.

Technically, these markers are represented by grooves engraved on the top of the stones of the outer coil of the spiral, which for clear visibility (if an operator wants to focus his attention in the highlighted direction) are covered with bronze paint. With respect to the geometric centre of the spiral, these markers specify directions to the North, South, West and East, as well as geodesic directions to the Great Pyramid, the largest megalithic constructions of Britain and Ireland, the greatest pyramids of Mesoamerica and the Incas, the Maya cult centres, the Spiritual centres of India and the Himalayas {→ 10.5}.

* Amplifiers of the geodetic markers. With the aim to link at the permanent basis the Portal to the chosen objects that are located on the appropriate directions, their markers have been imbedded in the construction of the labyrinth.

As the Sensitives {→ 11.2} testify, the energy-information influence of the aforesaid stone artefacts is really felt in this Portal. And although it is difficult to say what makes a greater contribution, we believe that this is facilitated by both markers and imbedded objects.

According to the testimony of the operators, the effect of the target object, the direction to which is indicated by the marker, in general, in the portal is noticeable. At the same time, geometrically, the line defined by the centre of the spiral and the marker, generally speaking, indicates not the target object, but the direction (more precisely – the arc of a great circle), on which many other objects, significant and insignificant, can be located.

From a mathematical point of view, for a unique definition of a point on the surface of the earth, two coordinates are required; for example, the latitude and longitude. In our case, one of them – the arc of a great circle – sets the direction, and in order to fix a certain object on this line, it is necessary to somehow connect it with this direction.

Therefore, in order to temporarily tune the Portal to one of the aforesaid artefacts, or other object lying in the selected direction, special "amplifiers" are provided, representing photographs of these artefacts (some say that black-and-white photos are preferable) that are installed outside the labyrinth opposite the marker of this direction.

As the Sensitives confirm, such "amplifiers" of the influence of the artefacts "work" as well. Also effective are objects that have, with the corresponding "targets", an energetic (or magnetical) connection; we can expect, and this is confirmed experimentally that the most effective for this will be minerals and objects, consecrated in those "target" places. For example, within the general direction of the Himalayas, the photographs of the temples, and the ritual objects consecrated in them, and crystalline minerals, proved to be valid {→11}.

In the opinion of a number of sensitivities, which is confirmed experimentally, by concentrating attention on an object of interest to an operator, you can similarly tune the Portal on it, even if the direction to this object is not indicated by a marker (de facto, this Portal is energetically connected with many sacred places in the world {→ 11.2}. But in order to enhance the energy-informational interaction of the operator with some object, it is required, by analogy, to install a thing, bound to this object, on the corresponding geodetic direction (not indicated by a marker), or write the name of the object on the stone.

As a result, the aggregate of the marker and the amplifier can be considered as a mobile marker-amplifier, which, in addition to the settings of the operator's consciousness, indicates the direction to the object geodetically and intensify the occult connection with this object, and thus can increase the occult effectuality of a Stone Portal enormously.

Last not least, we may note that within this approach the markers and amplifiers should not obligatory be embedded in the body of labyrinth, but may be installed and removed from the labyrinth at will – with the

aim to adjust the stone portal to the required object wherever it resides on the Earth. Moreover, these markers and amplifiers can be used along with the current disposition of the planets, since the influence which they exert to the operator residing in the labyrinth, is described astrologically, relative to the axes of the labyrinth, and this is acknowledged experimentally {→ 11.2}

* Orbs for directions. It must be borne in mind that although the direction is given by a line, for the applications it should not be considered the line in the mathematical sense, but as a small angle (viz. orb): narrow – up to 1º, or wide – up to 5º, that covers the corresponding area {→ 10.5}, the bisector of which presents the exact direction mathematically. This practice of interpreting the exact values is used both in astrology and in engineering, where to any size is indicated the tolerance determining the scope of its permissible variations. It must also be used in Archeoastronomy {→ 2}.

* Next, we describe a system of analytical models that determine the alignments of the labyrinth relative to its shape, dimensions and location, which were revealed in the designs of the stone Portals and explain their astrological significance, and, accordingly, how they could have been used occultly, as well as the models that in the light of the known esoteric concepts were supposed to be occultly effective, and as the experiment showed, they turned out to be so.

The first group of models {→ 10.4 – 10.7} describes the interrelation of geographic, astronomical and geodetic settings of the labyrinth, as well as how they are reflected astrologically in general and at certain points in time, as well as in relation to establishment of energy-information and space-time connections with the objects located on selected directions.

The second group of models {→ 10.8, 10.9} describes the geometric and metrological properties of the labyrinth, reflecting the properties of known artefacts – pyramids, cromlechs and labyrinths.

These models are described in such a way that they not only reflect the design solutions of the labyrinth in question, but they can also be used in the design of new objects of this type.

10.4. Geographic orientation of the entrance and horizontal axes of the labyrinth

The entrance to the labyrinth ***is oriented*** strictly ***to*** the North (Fig. 10.5.a); this predetermines that its axes specified by the coordinate axes, in which the spiral receives a natural mathematical representation, are directed along the local (viz. labyrinth's) meridian and parallel.

When considered on the earth surface, they are presented by horizontal North-South and East-West lines (Fig. 10.5.b). The first of them, presenting the line of longitude, ***is of*** special importance for the subsequent consideration since it ***defines*** the direction at which the Sun and other celestial bodies *culminate*, thus exerting the maximal occult (and astrological) influence ***over*** the site on the whole, and on a person residing ***in*** the labyrinth – in particular; for short, this North-South line called the NS-line.

> Remind {→ 2.1.1} that an object is said to culminate when it reaches its highest point in the sky. Thus, the culmination of the Sun determines the true local noon (also midday or noon time); however clocks and watches use mean time which varies from standard time by a few minutes each day. The difference is calculated using the equation of time {→ 2.1.1.3}
>
> When an object culminates, it crosses the line across the sky which connects the north and south cardinal points on the observer's horizon, passing through the zenith; so, at this moment in Northern Hemisphere midlatitudes the object is at the true South relative to the observer. This line is termed the observer's (or labyrinth's) meridian.
>
> For this reason, an object ***at*** the moment of its ***culmination*** may equivalently be described as transiting the meridian, or often simply transiting.
>
> In astronomy, the meridian is the great circle passing through the celestial poles, the zenith, and the nadir of an observer's location. Consequently, it contains also the horizon's north and south points, and it is perpendicular to the celestial equator and horizon. A celestial meridian is coplanar ***with*** the analogous terrestrial meridian projected onto the celestial sphere.

A (geographical, or local) meridian (or line of longitude) is the half of an imaginary great circle on the Earth's surface, terminated by the North Pole and the South Pole, connecting points of equal longitude. The position of a point along the meridian is given by its latitude indicating how many degrees north or south of the Equator the point is. Each meridian is perpendicular to all circles of latitude. Each is also the same length, being half of a great circle on the Earth surface and therefore measuring 20,003.93 km.

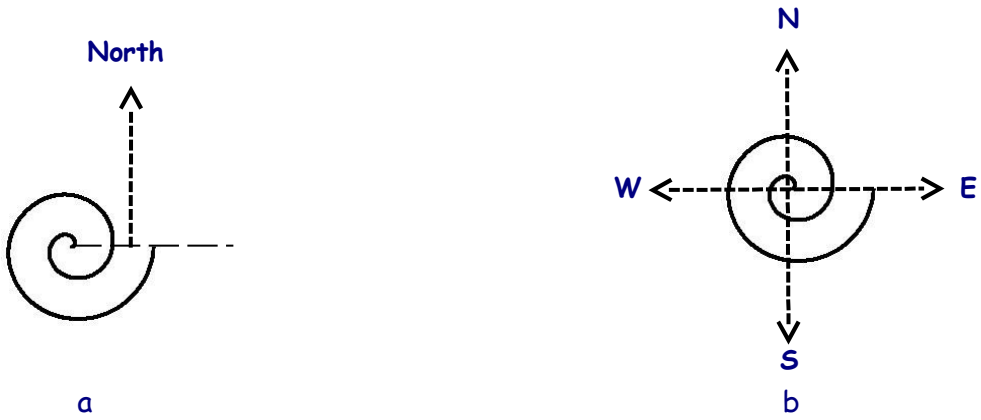


Fig. 10.5. The entrance to the labyrinth is directed exactly to the North, and its mathematical axes are correlated with the North-South and West-East lines; in this respect, the entrance to the labyrinth is disposed at the East

The choice of this orientation of the entrance is not dominant for labyrinths, but corresponds to the most sacred artefacts (the Great Pyramid, etc. {→ 2}) and to the general concept of the Secret Doctrine [21] which says that the purest energies of the Subtle Planes are transferred from the Cosmos to Earth in the region of the North Pole, and from there, by enveloping the surface of the Earth, they spread to the South {→ 7: Poles as receivers, accumulators and transmitters of the energies of the Cosmos}, whence they leave the Earth.

When analyzing the project, Sensitive # 2S noted that the direction of the entrance to the North gives the strongest and cleanest inflow of energies; East and West in this respect occupy an intermediate position, and the South – the lowest quality of energy.

It is natural to assume that the choice of the direction of input and other parameters of artefacts was made based on their purpose, for example – for providing alignment to sunrises and sunsets at specific positions of the Sun {→ 2}; this may explain why the labyrinths are frequently constructed by groups, in which objects differ in their orientation, graphemes, and other characteristics.

10.5. Azimuthal alignments of labyrinth to the world famous Temples

10.5.1. The elements of spherical trigonometry

First of all, it should be noted that for the problems under consideration, the surface of the Earth with an acceptable accuracy can be regarded as a sphere. In this case, to determine the direction from the given site (e.g. the labyrinth) to the remote object, i.e. an object located far enough to ignore the curvature of the earth's surface, spherical trigonometry should be used.

This direction is determined by the geodesic presenting a generalization of the notion of a "straight line" to "curved spaces". Namely, it is the shortest route which connects the given two points on the Earth's surface, which is specified by a segment *of* a great circle.

At the same time, locally, in a sufficiently small neighbourhood of the point of the site (at any rate within a radius of hundreds of meters, or several kilometres), the sphericity of the Earth's surface can be neglected; in this case the spherical angles between the geodesics and the geodesics themselves within this neighbourhood can be considered in the framework of Euclidean geometry – as angles and lines in the plane. In this case, the direction, which determine the starting part of a geodesic, can be specified by the tangent to the geodetic, or by its azimuth.

Thus, to determine the geodesic direction from the site to the remote object on the Earth's surface, it is necessary firstly to find the parameters of the geodesic connecting the points of the site and the object. To this end, consider the basic concepts and formulas of spherical trigonometry, which allow this to be done.

* A plane passing through the centre of a sphere crosses it along a great circle, an example of which is the equator or meridian, considered in both hemispheres. The smaller of the two arcs of this circle that connects the given points M (the place of observation, in the case under consideration – the labyrinth) and O (the object to be aligned to) determines the geodesic from one to the other along the surface of the sphere. In spherical trigonometry, the length b *of* this arc is ***considered in*** an angular measure; knowing the radius of the sphere, the geodetic length can be easily represented in linear units {→ 10.5}.

The direction of the geodesic we can specify by the angle C relative to the meridian, which is counted clockwise and is called the azimuth. Remind {→ 2.1.1}, that in astronomy the azimuth is measured from the point of the South, while in geodesy – ***from the*** point of the North.

In Chap. 2 the azimuths were used in the first sense, since they defined the astronomical alignments. But since below we consider the geographical coordinates, where the angles are calculated with respect to the North point, for determining the direction of remote objects, in this subsection the geodetic azimuth is considered; in addition, since we deal with angles smaller than 180^o, it is convenient to consider them with a sign so that the positive angles are counted clockwise, and the negative ones – counter-clockwise.

Any other secant plane gives a small circle at the intersection with the sphere, an example of which can serve a parallel, except for the equator itself. Note in this respect that if two points lie on the same latitude, then the geodesic connecting them does not coincide with the parallel, but lies somewhat higher than it (in the Northern Hemisphere), which is imperceptible at a small distance, and therefore on topographic maps the distance between a pair of points may be calculated with a ruler.

* Thus, one of the forms of the spherical coordinate system is geographical coordinates, where the meridians represent arcs of large circles that have two common points – the North and South Poles, through which passes the axis of rotation of the Earth. Latitudes are determined by small circles (parallels), the planes of which are perpendicular to the axis of rotation of the Earth, and therefore in the local and spherical geometry the parallels cross meridians under right angles. And only the Equator is represented by a large circle, and therefore the distance along it can be measured by the difference of longitudes.

Note, however, that the magnetic poles of the Earth differ significantly from the geographic poles of our planet. So, when using a compass to specify directions, including – to the geographic North, it is necessary to know the angular corrections for a given terrain and epoch, since the magnetic poles at the present are shifting quite fast, while the geographical ones remain practically unchanged. This should be remembered by those who want to orient their structures with a compass.

And for this reason (in addition to insufficient accuracy), for marking the building site for the labyrinth and the azimuths, the compass was not used; instead, for the specifying the NS-line, the gnomon was used, and for the azimuths - geometric constructions {→ 10.10}.

Thus, in a small neighbourhood of any point on the earth's surface, the NS-line, determined by the North-South direction, defines the direction of the meridian, and the East-West line perpendicular to it specifies the direction of the parallel.

* Three points that do not lie on one great circle and are connected by arcs of great circles (i.e. with geodesics) form a spherical triangle (Fig. 10.6). We consider spherical triangles in which sides and angles, expressed in degrees, are less than *180°*. In such a triangle the sum of sides exceeds *360°*, and the sum of the angles is greater than *180°*, but less than *540°*.

In general, a skew-angular spherical triangle is considered, or simply triangle – for short. In particular, a right (spherical) triangle is marked out, which has an internal angle of *90°*.

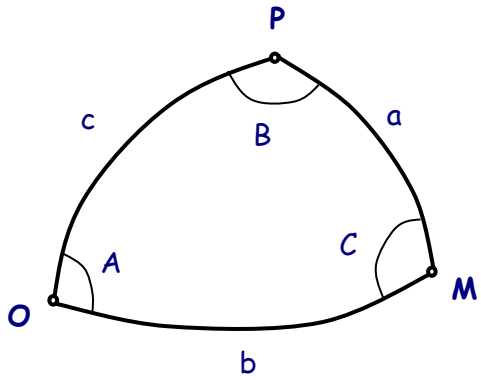


Fig. 10.6. The spherical triangle OPM which is determined on a sphere by the points O, P, and M

a, b, c – the arcs of great circles, expressed in angular measure (the length of a great circle is *360°*);
A, B, C – angles between arcs *a, b, c* that preserve their values in the local neighborhood of vertices O, P, M

For skew-angular spherical triangles the following relations are valid, as well as the similar ones that are obtained by circular permutation of the elements.

The formula of five elements

$$\sin a \cdot \cos B = \cos b \cdot \sin c - \sin b \cdot \cos c \cdot \cos A\,. \tag{10.1}$$

the law of sines

$$\frac{\sin a}{\sin A} = \frac{\sin b}{\sin B}\,. \tag{10.2}$$

The law of cosines

$$\cos a = \cos b \cdot \cos c + \sin b \cdot \sin c \cdot \cos A \tag{10.3}$$

For a right triangle, where B = *90°*, These formulas are simplified due to the fact that

$$\sin B = 1,\ \cos B = 0.$$

10.5.2. Determining the geodesic direction to the object

Let two points *M*, *O* with geographic coordinates (d_M, φ_M) and (d_O, φ_O) be given on the earth's surface, where *d* is the longitude, and φ – is the latitude. *M* is the point of the place of observation, and *O* is the point of the location of the object of interest. Without loss of generality, consider the case when both these points lie in the Northern Hemisphere; with the corresponding corrections for the latitude sign, they are also valid for the southern latitudes. For points lying in the Eastern and Western Hemispheres, their longitudes should also be given relative to the common reference point in order to take into account the transition through the zero meridian.

In this respect, the calculations simplifies the fact that, in view of the conventions adopted below, for determining the angle C we need not the longitudes of the points *M* and *O* themselves, but the modulus of their difference (10.6).

So let *P* be the North Pole. Consider the spherical triangle *POM* (Fig. 10.7), lying between the two meridians *PO*, *PM* and the arc *MO* of a great circle passing through the points *O* and *M*.

Then the searched direction from the point *M* to the point *O* is given by the arc *MO*, and numerically – by the angle $\angle C$. Strictly speaking, the geodesic azimuth of point *O*, determined by the angle *C*, in this case has the sign "–", since this is an acute angle counted from the North point counter clockwise. But we take this into account by laying the angle *C* to the West from the meridian *PM*. Where the west or east direction is not specified in the context, the angle *C* is presented with the sign; For example - in Tables 10.1 – 10.8.

In the formulas considered below, it is also not necessary to consider the angle *C* with a sign, since we always know whether the point *O* lies to the East or West from the site point *M*.

As a result of accepted agreements, the formulas for calculating the azimuths take the simplest form; one should only remember which side to lay the angle *C*.

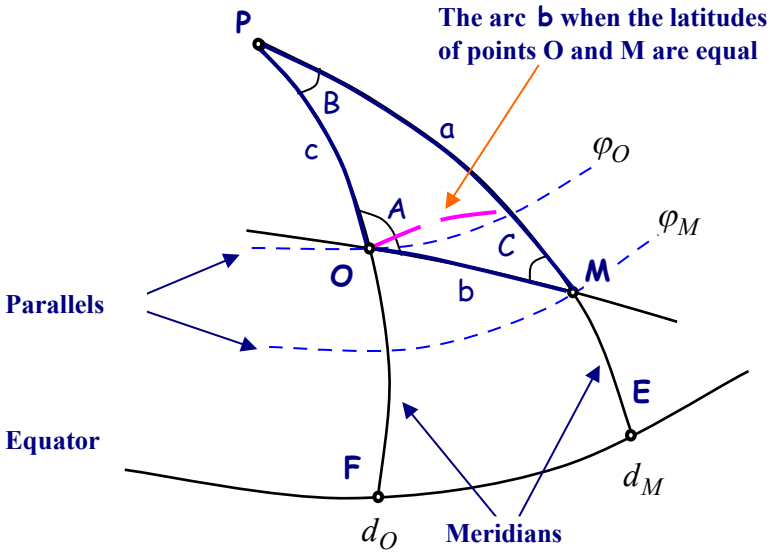


Fig. 10.7. The side MO of the spherical triangle OPM determines the direction from M to O

Thus, the geodesic direction to the point *O* is locally defined by the angle *C*; find it.

The angular measures of the arcs *PO* and *PM*, lying on the known meridians, are as follows

$$c = 90° - \varphi_O\,, \tag{10.4}$$

$$a = 90° - \varphi_M\,, \tag{10.5}$$

and the angle *B* between these meridians is

$$B = d = \left|d_M - d_O\right|. \tag{10.6}$$

By the law of cosines we obtain

$$\cos b = \cos a \cdot \cos c + \sin a \cdot \sin c \cdot \cos B\,, \tag{10.7}$$

or

$$\cos b = \sin\varphi_M \cdot \sin\varphi_O + \cos\varphi_M \cdot \cos\varphi_O \cdot \cos d\,.$$

Then, since $b < 180°$, we get

$$\sin b = \sqrt{1 - [\sin\varphi_M \cdot \sin\varphi_O + \cos\varphi_M \cdot \cos\varphi_O \cdot \cos d\,]^2}\,. \tag{10.8}$$

By the law of sines we obtain

$$\frac{\sin C}{\sin c} = \frac{\sin B}{\sin b},$$

whence

$$\sin C = \sin B \frac{\sin c}{\sin b} = \sin d \frac{\cos \varphi_O}{\sin b}. \tag{10.9}$$

However, as far as the angle C can be greater or lesser $90°$, it takes one of two values, either

$$C = arc\sin\left[\sin d \times \frac{\cos \varphi_O}{\sin b} \right], \tag{10.10}$$

or

$$C = 180° - arc\sin\left[\sin d \times \frac{\cos \varphi_O}{\sin b} \right], \tag{10.11}$$

And one should not think that when the latitudes of points O and M are equal, the angle C makes $90°$, since the arc OM lies not on a small circle of latitude, but on a great circle, and therefore when these latitudes are equal, the angle C will be smaller; in Fig. 10.7 such an arc is marked with a pink dotted line.

To determine which of the situations (10.10), (10.11) holds, it is sufficient to find the sign of $\cos C$; the first case, (10.10), takes place when $\cos C > 0$, and the second case otherwise.

Thus, from the law of cosines (10.3) we obtain

$$\cos c = \cos b \cdot \cos a + \sin b \cdot \sin a \cdot \cos C. \tag{10.12}$$

Since $a < 90°$ и $b < 180°$, the factors at $\cos C$ are positive.

Hence, the sign of the $\cos C$ is determined by the following quantity

$$z = \cos c - \cos b \cdot \cos a = \sin \varphi_O - \cos b \cdot \cos \varphi_M, \tag{10.13}$$

and the situation (10.10) holds if $z > 0$, and (10.11) – otherwise.

10.5.3. Determining the geodesic distance to the object

From (10.7), the angle b that connects the points M and O along the arc of the great circle is equal to

$$b = \arccos(\cos a \cdot \cos c + \sin a \cdot \sin c \cdot \cos B). \tag{10.14}$$

Then, if this angle is expressed in degrees, then with sufficient accuracy the length of this arc in linear measure is

$$R(M,O) = R_* \times \frac{b}{180} \times \pi, \tag{10.15}$$

where R_* is the average radius of the Earth. If the average of the equatorial ($R_E \approx 6378.14$ km) and the polar ($R_P \approx 6356.78$ km) radii of the Earth is taken as this value, then with an accuracy of the order of $\delta \approx 0.2\%$ the geodesic distance between the points M and O makes

$$R(M,O) \approx 111.1 \times b \text{ (km)}, \tag{10.16}$$

where the length of the arc b is expressed in degrees.

10.5.4. Determining the geodesic direction: method of tangents

The relation (10.10), for z > 0, or (10.11), for z < 0, according to the value z in (10.13), gives the angle *C*, measured in the horizontal plane from the direction to the North Pole, which is plotted counter clockwise (to the West), if $d_O < d_M$, and clockwise (to the East) – otherwise.

At the same time, taking into account that the directions to the North, South, West and East are already marked, for improving the accuracy of constructions on the terrain it is convenient to use angles smaller than *45°*, and not even the angles themselves, but their tangents. This is due to the fact that in order to accurately mark a segment of several meters long on the surface of the earth, it is necessary to have a theodolite, because in view of its small size, an ordinary protractor is not suitable for this. Meanwhile, to use the tangents in these conditions, a long ruler is enough.

Indeed, let the labyrinth occupy the region, which in Fig. 10.8 is indicated by a yellow circle. Our task is to mark on its periphery a point that indicates the direction from the centre of the labyrinth *M* to the object *O*. The corresponding markers in this figure are marked red for clarity. To determine the place where the marker should be placed, we need to build a beam *MO*: its intersection with the periphery of the labyrinth defines the position of the marker.

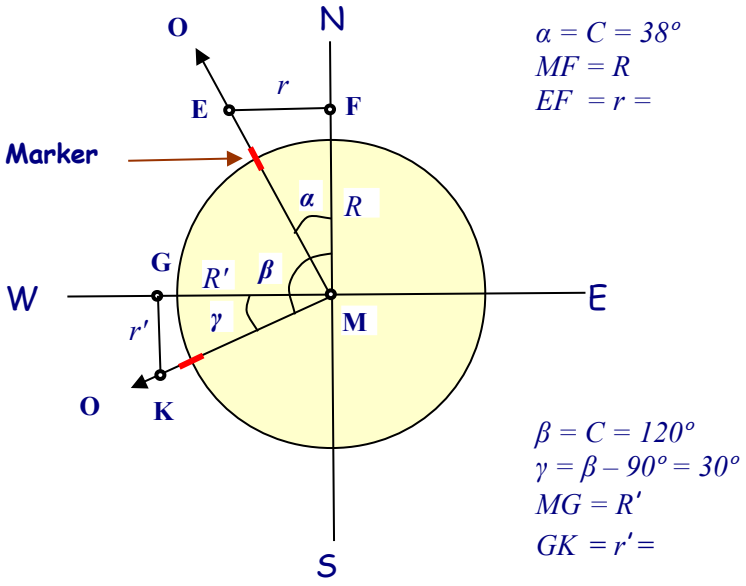


Fig. 10.8. Position of the marker which specifies the azimuth to the remote object

If the angle $C = \alpha$ is less than *45°* (Fig. 10.8), we plot the segment *MF* of an arbitrary length *R* on the NS-axis NS in the direction of the North, and then, perpendicular to it (toward the West), the segment *r* with the length $R \cdot tgR$; its end – the point *E* – specifies the required direction. If $45° < \alpha < 90°$, then the analogous construction is carried out with respect to the WE axis for the angle $\alpha' = 90° - \alpha$.

If the angle $C = \beta$ is greater than *90°* but less than *135°* (Figure 10.8), we plot the angle $\gamma = \beta - 90°$ towards the West, proceeding in the same way – first we plot the segment R', and then $r' = R' \cdot tg\gamma$. If $135° < \beta < 180°$, then the analogous construction is carried out with respect to the axis NS, but for the angle $\beta' = 180° - \beta$.

Similarly, we arrive in the case when the longitude of the object *O* exceeds the longitude of the site *M*, with the difference that the angles α and β are plotted in the direction of the East.

Notice, that these constructions are trivial and easy to perform with the help of a compasses and ruler. For them, an inextensible cord with one fixed end and a long rod with a fission value of approximately *0.5* cm can be used in practice {→ 10.10}; much greater accuracy of the ruler is not required due to the heterogeneity of the surface of the stones, which does not allow them to be set with greater accuracy, and the comparable error in specifying the cardinal geographical directions.

* The error of plotting the geodetic direction to the object under these conditions is the lesser, the larger the radius R. Take this radius to be equal to the radius of the labyrinth, $R = 3$ m. Then the angle Δ_A corresponding to the uncertainty of plotting the lengths, making $\Delta = 0.5$ cm, in the order of magnitude makes

$$\Delta_A = \frac{\Delta}{2\pi R} \times 360^\circ = 0.095^\circ \approx 5.7', \tag{10.17}$$

that is about 6 angular minutes. For a twice larger radius (~ 6 m), this error decreases to 3′. Meanwhile, it should be remembered that the marker itself – as a groove on the stone – has a width of several mm, which corresponds to a 6 m length of the radius R.

Thus, the achievable accuracy of specifying the geodetic direction to the remote object is rather high and makes about 3′. It is difficult to say whether such high accuracy is necessary in itself (especially if in addition to the markers the object amplifiers are used as well), but achieving it does not make a problem.

10.5.5. Geodetic azimuths of chosen objects and reflection of their domains of influences on the map

Everywhere below, the coordinates of M are the same and are determined by the location of the labyrinth:

Latitude: **50° 11′ 28″ N.** (10.18)
Longitude: **36° 16′ 49″ E.**

The coordinates ***of*** the object *O* are ***specified in*** the tables below ***in*** the decimal representation. The corresponding azimuth is ***given with*** the sign.

The arcs ***from*** the point M ***to*** these objects (along a great circle passing through the points *M* and *O*) are ***reflected*** on the map ***by*** blue lines that are constructed using intermediate (reference) points; remind that each point on such an arc has the same azimuth *C* relative to the point M.

* Egypt, The Great Pyramid in Giza {→ 2.3}

Table 10.1. The azimuth of the Great Pyramid: $C = -167.230°$

Target object	Coordinates		Azimuth
	Latitude (N)	Longitude (E)	
The Great Pyramid in Giza	**29.979167**	**31.134167**	**- 167.230**

* India, The Himalayas {→ 11}

Table 10.2. The azimuth of Manali: $C = 105.094°$ (See Fig. 10.9)

Objects		Coordinates		Azimuth
		Latitude (N)	Longitude (E)	
Manali	(**Target object**)	**32.2667**	**77.1667**	**105.09**
Dharamsala	(Object in orb)	**32.2167**	**76.3167**	**106.02**
The Himalayas	(Object in orb)			
Mt. Kailash	(Object in orb)	**31.0670**	**81.31**	**102.54**
M1	(Reference point)	**32.0000**	**77.50**	**105.09**
M2	(Reference point)	**30.0000**	**79.93**	**105.09**
M3	(Reference point)	**25.0000**	**85.42**	**105.09**
M4	(Reference point)	**20.0000**	**90.30**	**105.09**

Table 10.3. The azimuth of Amritsar-Vrindavan: *C* = 109.362° (See Fig. 10.9)

Objects	Coordinates		Azimuth
	Latitude (N)	Longitude (E)	
Target object – mean azimuth to: Amritsar, Vrindavan and Varanasi			109.362
Amritsar (Object in orb)	31.6167	74.850	108.32
Vrindavan (Object in orb)	27.5806	77.701	110.06
Varanasi (Object in orb)	25.3069	83.006	107.09
M1 (Reference point)	32.0000	73.43	109.36
M2 (Reference point)	30.0000	75.75	109.36
M3 (Reference point)	25.0000	81.00	109.36
M4 (Reference point)	20.0000	85.68	109.36

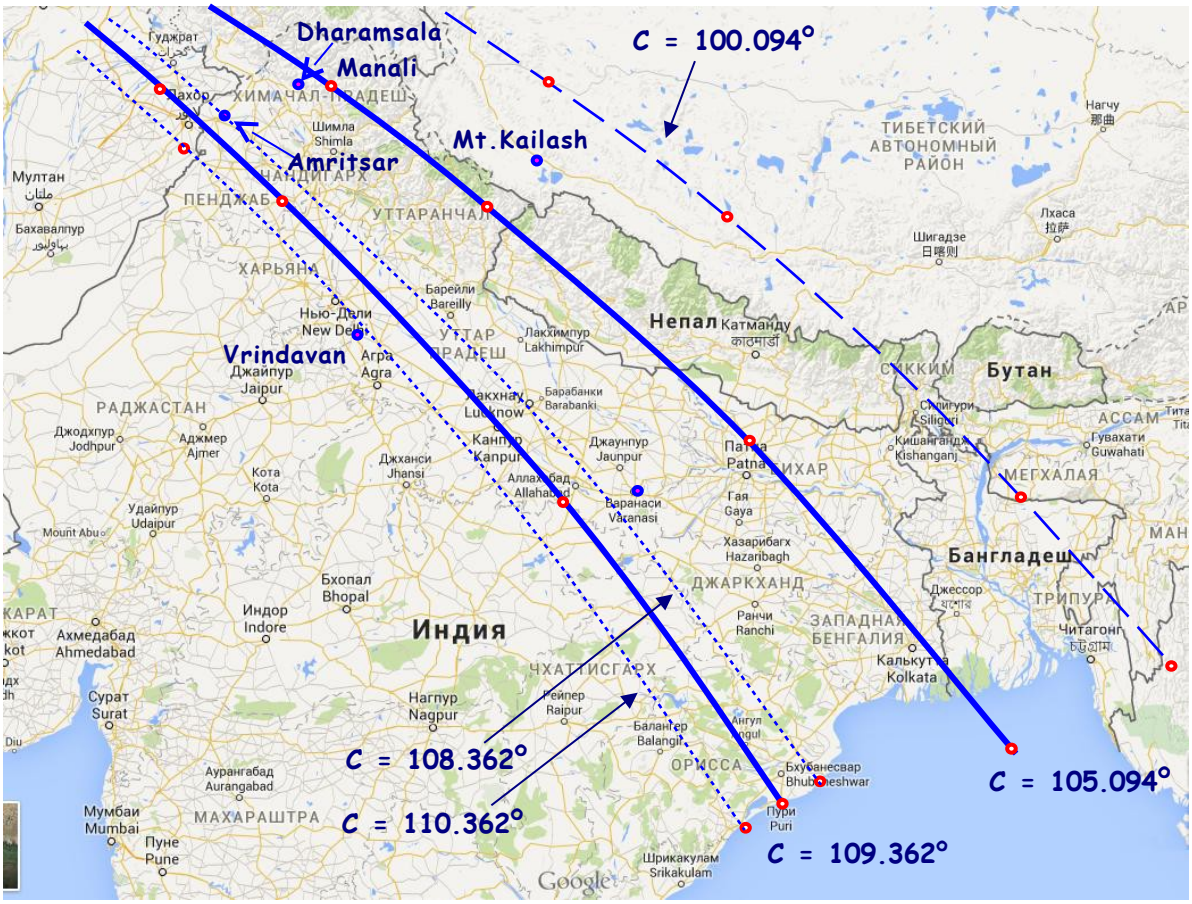


Fig. 10.9. Lines of equal azimuths (*C*) for the observation site, and their 1°- and 5°-orbs

The boundaries of the region, where lie the lines with the azimuths belonging to *1°*-orb relative to the azimuth C = *109.362°* are shown by dots. For the azimuth line C = *105.094°* the right line, corresponding to the *5°*-orb, is shown in dotted line. From this side, the area defined by the orb covers the main ridge of the Himalayas, Kailash and part of Tibet. The left boundary of this region defined by the orb is not shown, since it lies near the line with azimuth C = *109.362°*; from this side, the region defined by the *5°*-orb covers the Northeast part of India

* Mesoamerica {→2.6}

Table 10.4. The azimuth of Palenque *C* = - 49.160° (See Fig. 10.10)

Objects	Coordinates		Azimuth
	Latitude (N)	Longitude (W)	
Palenque (**Target object**)	17.4831	92.04944	- 49.160
Maya centres in Yucatán (Objects in orb)			
M1 (Reference point)	16.500	92.65	
M2 (Reference point)	20.000	90.47	
M3 (Reference point)	22.000	89.17	
M4 (Reference point)	25.000	87.13	

Table 10.5. Azimuth of the Pyramid of the Sun in Teotihuacan: *C* = - 42.3704° (See Fig. 10.10)

Objects	Coordinates		Azimuth
	Latitude (N)	Longitude (W)	
The Pyramid of the Sun (**Target object**)	19.6925	98.8438	- 42.3704
The Great Pyramid of Cholula (Object in orb)	19.062778	98.3067	- 43.12
M1 (Reference point)	17.500	100.03	- 42.37
M2 (Reference point)	22.000	97.56	- 42.37
M3 (Reference point)	25.000	95.81	- 42.37
M4 (Reference point)	30.000	92.67	- 42.37

Fig. 10.10. Lines of equal azimuths (*C*) for the observation site (**50.19111° N, 36.28028° E**)

Remind that the Pyramid of the Moon resides near the Pyramid of the Moon

* Great Britain and Ireland {→ 2.9, 4}

Table 10.6. The azimuth of Stonehenge: C = - 72.78355° (See Fig. 10.11)

Objects	Coordinates		Azimuth
	Latitude (N)	Longitude	
Stonehenge (Target object)	51.17886	1.82641 W	- 72.784
M1 (Reference point)	51.000	3.04 W	- 72.784
M2 (Reference point)	51.250	1.313 W	- 72.784
M3 (Reference point)	51.500	0.649 E	- 72.784
M4 (Reference point)	51.800	3.488 E	- 72.784

Table 10.7. The azimuth of Newgrange: C = - 65.64598°

Objects	Coordinates		Azimuth
	Latitude (N)	Longitude (W)	
Newgrange (Target object)	53.693289	6.470907	- 65.646
M1 (Reference point)	52.500	11.83	- 65.646
M2 (Reference point)	53.000	8.45	- 65.646
M3 (Reference point)	53.500	4.00	- 65.646
M4 (Reference point)	53.750	0.81	- 65.646

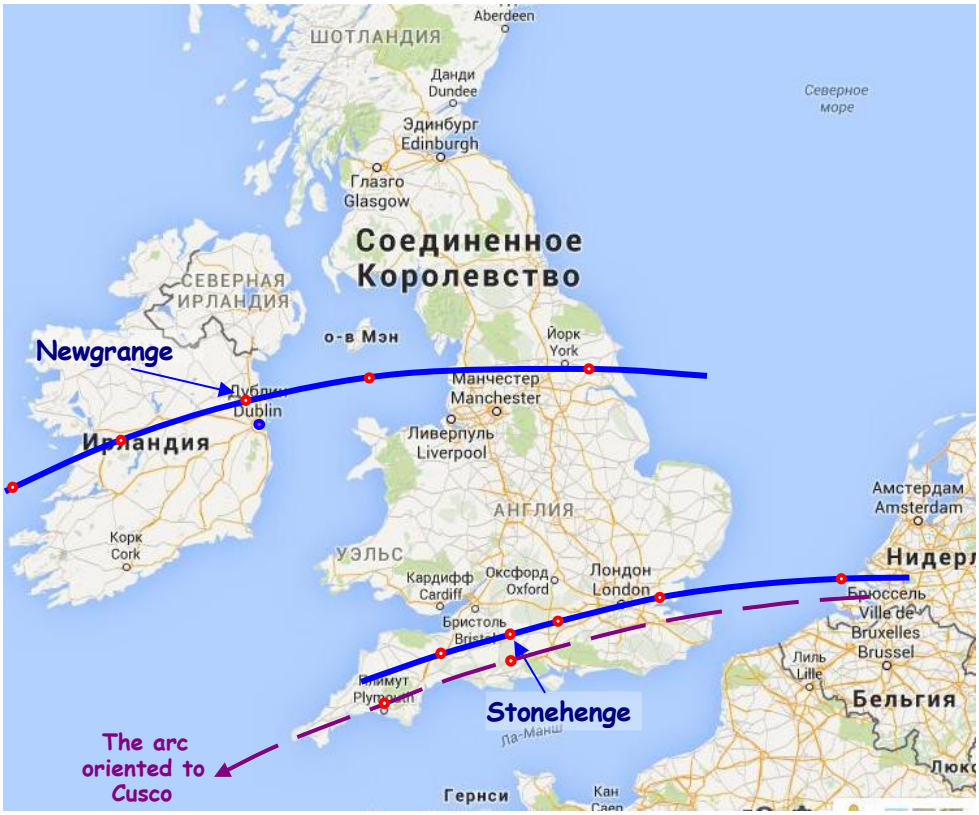


Fig. 10.11. Lines of equal azimuths (C) for the observation site (50.19111° N, 36.28028° E)
Notice that ***within the*** orbs of these lines reside the bulk of the Passage Mounds {→ 2.9} and Cromlechs {→ 4} of England, Ireland and Scotland

* Cusco {→ 12}

The azimuth of Cusco (13° 31′ 38″ S, 71° 58′ 17″ W), Peru: C = - 73.52744° (See Fig. 10.11)

Notice, that due to the closeness of the azimuths to Cusco and Stonehenge, the said below about one of these azimuths with a small error in 45 arc minutes is also valid for the other one.

* Discussion

In constructing the labyrinth, the geographical directions were determined with an accuracy corresponding to the accuracy of identification of the NS-line {→ 10.10}, and the directions to the target objects and the adjacent areas were determined by azimuths that were calculated as sides of spherical triangles whose vertex M coincides with the location of the labyrinth, and vertex O - with the object; at this, the obtained angles were marked on the ground with respect to the NS-line. Therefore, the accuracy of specifying these directions is comparable to the accuracy of specifying the geographic directions.

The influence of this direction is not limited to the target object, but extends to all the sites located along its azimuth. In addition, since these azimuths, marked by grooves on the stones (as in the Incas Ceque system {→ 12}), indicate de facto not a mathematically exact line, but a small angle determined by the construction error of about ten minutes in which this line lies, we may say that each of these azimuths indicates the direction (along the earth's surface) not only on the target object, but also on the adjoining region, with an efficiency that is inversely proportional to the deviation from the exact value.

Thus, with a narrow azimuth orb of *1°* (*5'*), the adjoining area in the region of India extends to the East and West from the azimuth line by about *1°* (*5'*) of longitude, and in Mesoamerica – by about *0.85°* (*4.3'*). In other words, if the azimuth deviates within *1°* at the observation point, then the longitude of the point lying on this line in the region of India (Mesoamerica) deviates within *1°* (*0.85°*) in longitude. Accordingly, the variation of azimuth by 5° corresponds to a change in longitude by *5°* (*4.3'*).

In accordance with astrological concepts, the influence exerted in such a narrow orb as *1°* is, in general, as effective as in the case of the exact direction; and in the orb of *5°* – rather effective.

Applying this concept to the azimuths of the labyrinth, by analogy we obtain that the number of objects with which the occult communication via the Portal can be established increases significantly, and the focussing on a particular object can be achieved both by concentrating consciousness on the chosen direction, and through the use of "amplifiers" of the geodesic markers.

At the same time, it is natural to believe that not only the geodesic markers but also the models and objects that are energetically connected with these artefacts are effective.

Moreover, as far as the experiment has shown {→ 11} that the transiting celestial bodies can also contribute to the strengthening of occult communication, when they ascend or culminate, we may assume that they may as well exert influence over the in specified directions, when their projections conjunct the respective markers. But experimentally such situations were not studied.

At this, to determine the moments of occurrence of the moments of ascension and culmination, and to assess their effects qualitatively, it is necessary to relate the considered directions to the Ecliptic and the main axes of Mc-Ic and Asc-Dsc, which determine its projection to the horizon plane at the location of the labyrinth and with respect to the orientation of its axes. In more detail this approach is considered below {→ 10.6, 10.7}; meanwhile, with respect to the considered subject, one may note, that since astronomical rather than geodetic azimuths are used in calculations of the azimuths of rising and setting celestial objects, and the Ecliptic degrees, the azimuths obtained above should be recalculated (Table 10.8) so that they count the angle from the South point.

Table 10.8. Astronomical azimuths*) of the directions to the target objects

Target object	Designation	Geodesic azimuth (from North point)	Astronomical azimuth (from South point)
The Great Pyramid in Giza	A#1	- 167.23	12.77
Manali	A#2	105.09	285.09
Amritsar	A#3	109.36	289.36
Palenque	A#4	- 49.16	130.84
The Pyramid of the Sun	A#5	- 42.37	137.63
Stonehenge	A#6	- 72.78	107.22
Newgrange	A#7	- 65.65	114.35

Cusco	A#8	- 73.53	106.47

*) The angles are rounded up to about minutes; more precise values are given in Tables 10.1 – 10.7.

10.6. The astronomical orientation of the Portal and its astrological significance

10.6.1. Parameters of astronomical adjustment of the labyrinth

In a typical situation, astrology analyzes the positions of planets and stars, determined by their projections on the circle of the Ecliptic, which are represented in the natal and transit charts {→ 10.7}, although in some cases their latitude is taken into account as well.

Both these approaches are also relevant to the considered labyrinth as the Portal; the former is analyzed in the next section; now, consider the orientation of the labyrinth to the celestial sphere.

The geographic alignment of the horizontal axes of the labyrinth described above determines its position on the plane uniquely.

At the same time, the labyrinth also has a vertical axis passing through its centre perpendicular to the plane of the site on which it is located, whereas this site may not lie in the horizon plane. In general, the orientation of this axis is defined by two independent parameters, for example – by the azimuth A and height h (that is, the angle from the horizon), which we can set at our discretion, setting the slope of the site relative to the horizon plane.

* Basic orientation of the vertical axis. If the site lies in the horizontal plane, its azimuth is not defined, and the vertical axis points to the zenith; call this the basic orientation.

In this case, during a diurnal period, this axis describes on the celestial sphere a circle with a centre in the Celestial pole, the declination δ (i.e. the equatorial latitude {→ 2.1.1}) of all points of which is equal to φ, where φ is the geographical latitude of the observation site. Call it the circle of declination δ; in this case $\delta = \varphi = 50^o$.

By the geographical alignment of the labyrinth, one of its axes coincides with the NS-line. For this reason, when the Sun, star, or planet culminates, this generally maximizes its influence; in an astrological chart at this moment the celestial object resides at Mc, and physically – not only on the NS-line, but also on the respective axis of the labyrinth.

Therefore, we may expect that both physically, and astrologically the moment of culmination of a celestial body should exert, in general, an enhanced influence on a person if he is located in the labyrinth, because in this case the astrological features of this body is amplified by the Portal itself, since at this moment this body also resides at one of two horizontal axes of the labyrinth.

This influence would be increased even more, if the culminating celestial body resides in the circle of declination δ, since in this case it culminates while residing at two axes of the labyrinth simultaneously.

As the experiment has shown {→ 11.x}, this correlation between the transiting chart and the fixed labyrinth axes lead to a resonance response, especially when a transiting body culminates, that is passes the Mc; this justifies the consideration of synastry (simultaneous consideration of two charts correlated by the Zodiacal Sines) not only between the transiting situation and person's chart, but between both of them with the "physical" chart of the labyrinth, the Mc-Ic and Asc-Dsc axes of which are represented by the NS-line and E-W direction; this is apart from the natal chart of the labyrinth itself {→ 10.7}.

At the same time, a significant influence could be exerted not only by celestial bodies that lie exactly on the declination circle with a given value δ, but also by those whose declination is in the permissible orb. For ecliptic projections, the "narrow" (1°) and "wide" (5°) orbs are deemed effective. But in this case we are talking about alignment of the axis directly to the object, rather than to its

projection on the Ecliptic, and therefore the orb can be taken more wide; for definiteness, we may take the mean value $\Delta_O = 2.5°$.

* Orientation of the vertical axis to the North or South. Assume that the vertical axis of the labyrinth deviates from the zenith by an angle σ (zenith distance). Then, if the azimuth A of the horizontal projection of the axis is 0^o (the axis is inclined to the true South) or 180^o (it is inclined to the true North), then on the celestial sphere the axis describes the circle, but its declination in the first case is less ($\delta' = \varphi - \sigma$), and in the second case – more ($\delta'' = \varphi + \sigma$) by the value of the zenith distance σ.

Notice that for telescopes, the zenith distance can be very large. For example, if for a latitude $\varphi = 50^o$ the angle σ is 40º and $A = 180^o$, then the axis is continuously pointed at the North Star. If the azimuth is directed to the South, and $\sigma = 50^o$, then the axis continuously scans the celestial Ecuador.

Obviously, such extreme situations for labyrinths are impossible, because the angle σ to which the plane of the site is inclined to the plane of the horizon can take only comparatively small values.

Note. When the angle σ differs from zero, i.e. the site is inclined to the plane of the horizon, the azimuth angles measured in the plane of the site are generally not equal to the azimuths, which should be measured in the horizontal plane. The method of excluding such errors is discussed below.

* Orientation of the vertical axis for an arbitrary azimuth. If the azimuth of the horizontal projection of the vertical axis differs from the considered values (0^o or 180^o), in addition to the distortion of azimuths, if they are plotted based on the circumscribed circle, the main directions divide the circle into unequal pairs of arcs; in this case the calculation of declination requires taking into account both the azimuth and the height of the axis.

In this situation, the complexity of the calculations required to relate the vertical axis with the points of the celestial sphere, as well as the directions to the target objects with the azimuths of the Ecliptic points considered below, increases without introducing advantages. Therefore, without special need this alternative becomes inexpedient.

* Orientation of the vertical axis to the North with a small inclination angle σ. Thus, the basic orientation of the labyrinth allows us to plot the azimuths of all the required directions to the target objects, producing the necessary geometric constructions directly in the plane of the site, correlating them with geographical directions, which creates maximal convenience in practical use of the Portal; in particular, since already existing markers can be used directly in the construction of new azimuths.

However, if the azimuth of the vertical axis of the labyrinth is $0°$ or $180°$, and the angle σ of its deviation from the zenith is small, then the error of deviation of this orientation from the basic one can be taken into account, or neglected when it is small in comparison with the errors in marking and building. Such a solution can be useful because it provides:

– alignment of the Portal to certain stars or other fixed objects of the Celestial sphere on a diurnal basis due to the choice of the angle σ, as a result of which the vertical axis scans the celestial sphere along the declination $\delta = \varphi \pm \sigma$ (the sign is taken depending on the angle of inclination of the axis);

– alignment of the vertical axis of the labyrinth, and through it – and the Portal itself, to the Pole Star, toward which the azimuth of the horizontal projection of vertical axis indicates, and on the permanent basis.

It follows from the foregoing that if the vertical axis of the labyrinth deviates from the zenith by a small angle σ in the direction of the azimuth equal to $180°$, then with respect to the ecliptic projection the site is oriented to the North Pole with the inclination to the horizon plane by the same angle σ; In this case, the declination circle is determined by the value $\delta_\sigma = 50º + \sigma$.

For a specific value $\sigma = 4°$, ***inherent in*** the constructed labyrinth, the location of the circle of declination δ_σ is shown in Fig. 10.12, whereas the main stars which fit its $2.5°$-orb, are presented in Table. 10.9.

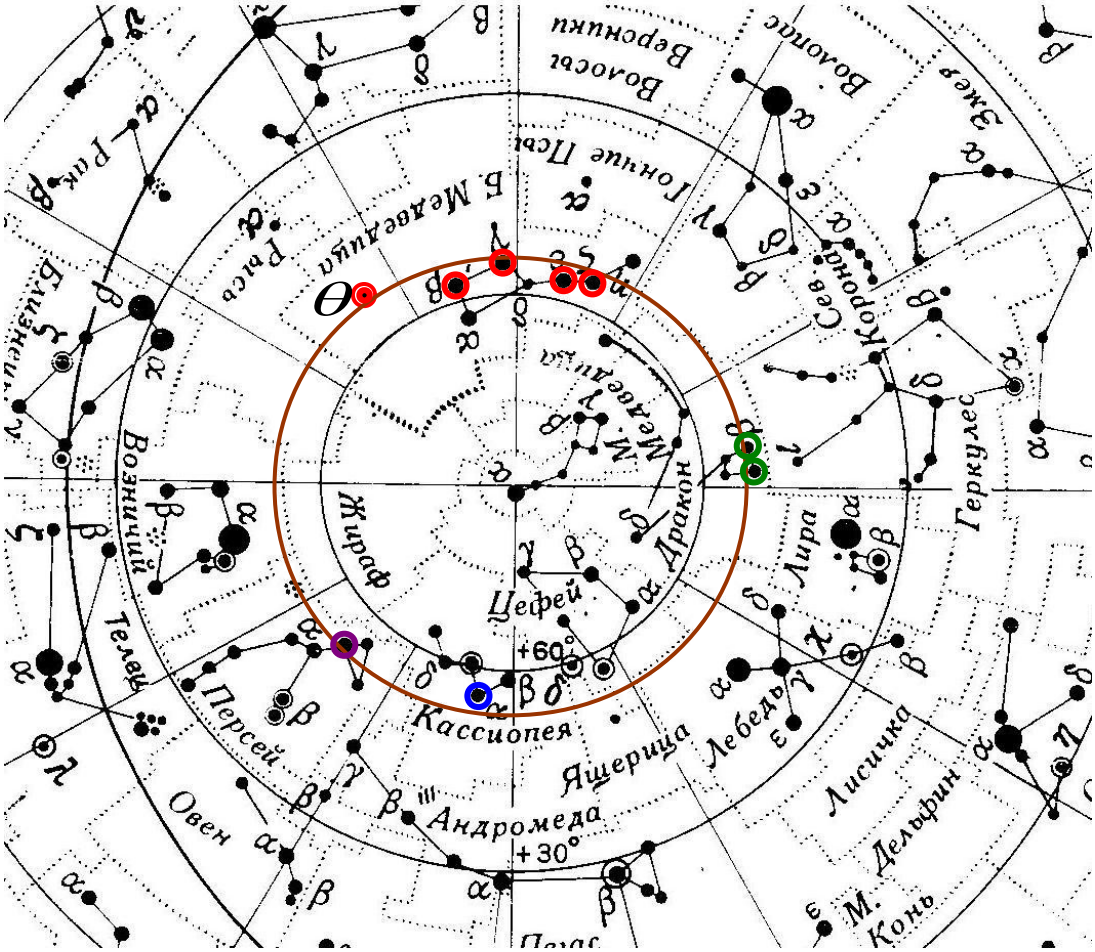


Fig. 10.12. The circle of declination σ = 54°, described by the vertical axis of labyrinth for a day
The largest stars (Table 10.9), falling into the 2.5°-orb of the declination circle, are circled

Table 10.9. The largest stars falling into the 2.5°-orb of the circle of declination δ = 54°

Designation of Star and Constellation	Name	Declination
α **Cassiopeia** (Cas)	Shedar	**56.53°**
γ **Perseus** (Per)		**53.50°**
The Great Bear (UMa)		**51.68°**
The Great Bear (UMa)	Merak	**56.38°**
γ **The Great Bear** (UMa)	Phecda, Fekda	**53.70°**
ε **The Great Bear** (UMa)	Alioth	**55.97°**
ζ **The Great Bear** (UMa)	Mizar	**54.92°**
Dragon (Dra)	Rastaban*)	**52.30°**
γ **Dragon** (Dra)	Eltanin*)	**51.48°**

*) Eltanin and Rastaban, ***the Dragon's Eyes***

* Construction of azimuths taking into account the inclination of the plane of labyrinth by the angle σ.
Remind that the azimuths are given starting from a uniform scale of angles on a circle lying *in the plane of the horizon*, the centre of which coincides with the centre of the labyrinth *O*; for definiteness, this circle is called the geodesic.

Therefore, if the site is inclined to the plane of the horizon at an angle σ, then using the same principle for a circle drawn on the surface of the earth will introduce distortions.

In this regard, for adequate marking of azimuths, a reference to the horizontal plane is required; In the absence of a theodolite, various methods can be used for this, two of which are as follows.

* The method of horizontal construction. The corrections required to take into account the slope of the site can be avoided and calculations of azimuths and geometric constructions can be made as in the case of the basic orientation of the labyrinth, if these constructions are carried out in the plane of the horizon.

This method of azimuth marking is mathematically correct and is actually realized when using a theodolite. But in the absence of this instrument, azimuth markings can be made using a number of simple geometric constructions on the terrain.

It is due to the smallness of both the slope of the site, and the size of stones protruding above the surface of the earth, this, in general, is not more difficult than to build in the plane of the site, where the survey lines have to be laid "hanging".

To do this, the reference poles must be mounted vertically (for example, using a construction level or plumb bob), whereas plotting the straight lines (for example, with a cord) and measuring the distances have to be made in plane of the horizon, using a building level (bubble ruler or hydro level).

* The method of an inclined platform. The line in the plane of the construction area, which, when projected onto the horizon plane, yields a geodesic circle, is called the reference line. It is an ellipse (Fig. 10.13), which can be regarded as a section of a vertical cylinder, at the base of which lies a geodesic circle, by the plane of the site. Its semi-minor axis is oriented along the E-W line, and is equal to the radius of the circle r, and the semi-major axis is directed along the NS-line; from the triangle AOA' in Fig. 10.13.a it follows that its value is

$$R = \frac{r}{\cos\sigma}. \qquad (10.19)$$

At this, any azimuth defined by a point **V** lying on the geodesic circle is described by an arc of a great circle of the earth's sphere, which is given by intersection of the vertical plane passing through the points **O** and **V** with the Earth' surface. But the reference ellipse intersects this plane at the point **U**, the projection of which on the horizontal plane and gives a point **V**.

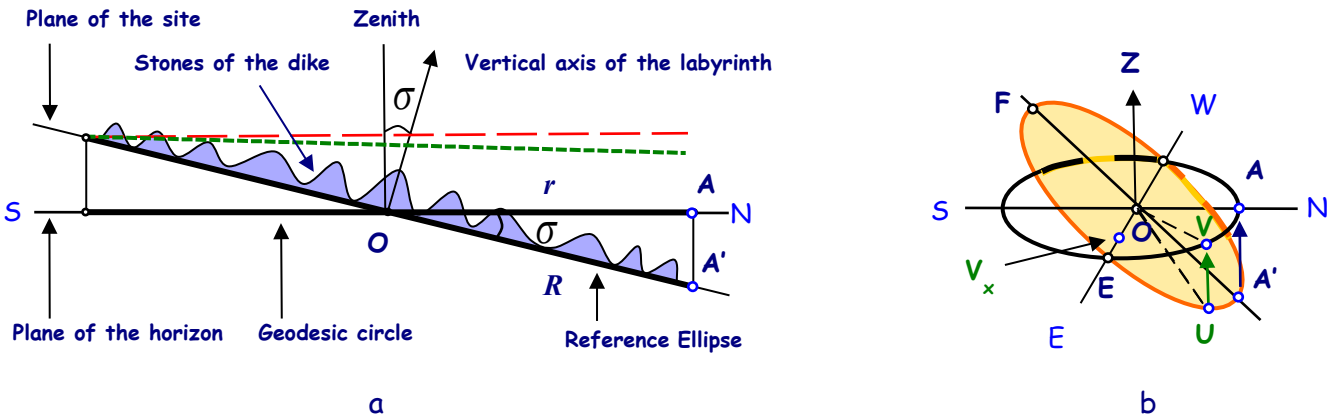


Fig. 10.13. Marking the azimuth on the inclined site

a – section of the labyrinth in the plane of the meridian. Notice that the angle is significantly enlarged for clarity. The actual slope of the site to the plane of the horizon is shown above – by the green and red dotted lines, respectively.

b – the reference ellipse and geodesic circle, where: **OA = OE = *r* ; OA' = OF = *R*.**

Thus, for an arbitrary angle σ for the correct construction of the azimuth determined by the point V, it is required to find on the reference ellipse that point U which is mapped to the point V.

Consider the angles which the points V and U form with the axis OE taken as the x-axis (abscissa), in the planes of the circle and the ellipse, respectively, and denote them as follows

$$\angle EOV = \alpha\ ,\ \angle EOU = t.$$

Then OA (OA') will be the ordinate axis, y (z), in the plane of the circle (ellipse, respectively).

The parametric equations of the circle and ellipse under these conditions have the form

$$\begin{cases} x = r \cdot \cos\alpha, \\ y = r \cdot \sin\alpha; \end{cases} \tag{10.20}$$

$$\begin{cases} x = r \cdot \cos t, \\ z = R \cdot \sin t. \end{cases} \tag{10.21}$$

Let x_v be the projection of the point V on the x-axis, which determines the base of the perpendicular V_x from the point V. Then it follows from (10.20) that

$$x_v = r \cdot \cos\alpha\ . \tag{10.22}$$

But since the segment UV is perpendicular to the plane of the circle, and hence to the straight line OE, the straight line OE is perpendicular to the plane defined by the three points V, V_x and U; therefore the point V_x is also the projection of the point U on the x-axis in the plane of the ellipse. Then it follows from (10.21) and (10.22) that

$$r \cdot \cos t = x_v = r \cdot \cos\alpha\ , \tag{10.23}$$

from which it follows that

$$\alpha = t. \tag{10.24}$$

In other words, despite the fact that the distances along the NS axis in the ellipse increase, the azimuths, and this is what we are interested in, remain invariant to the angle of inclination of the site to the horizon plane.

Since in this case the azimuth of the vertical axis does not matter, and it is important that the ellipse represents the section of the straight cylinder with the base in the form of a geodesic circle, we come to the following conclusion.

→ The central angle α of the geodesic circle, defined by some pair of points V, P, lying on it, is equal to the central angle of the reference ellipse, which is determined by those points V', P', which are projected into the points V and P, respectively.

At this, if it is known that the segment OP' projects onto the segment OP, what holds for the axes N-S and E-W, then to construct the ray OP'' passing along the segment OP', and thus – determining the searched angle α, it is not necessary to look for the position of the point P', but it is sufficient to plot this angle in the plane of the ellipse (i.e. in the plane of the site) relative to the axis OP'.

This provision ensures correct azimuth marking based on the use of the tangent method {→ 10.5.4}, when the angles can be counted in both directions from any horizontal axis of the labyrinth in the plane of the site. However, the distances in these two planes are distorted; consider this aspect in more detail.

* The actual difference between the metrics of the site and the horizontal plane. At an angle of inclination of the site to the plane of the horizon, equal to $\sigma \approx 4°$, the coefficient of increasing the length of the greater axis of the reference ellipse relative to the radius of the geodesic circle, according to (10.19) is

$$k_\sigma = \frac{1}{\cos\sigma} = 1.00244, \tag{10.25}$$

so its relative deviation is relatively small

$$\delta_\sigma = 0.0024 \approx 0.2\%. \quad (10.26)$$

However, in absolute values this deviation may exceed the error of the constructions. So, if we take as the radius of a circle the average radius of the outer turn of the labyrinth, equal to *300* cm, then in the E-W direction the radius of the ellipse takes the same value, whereas along the N-S direction it makes *300* cm plus the absolute deviation equal to

$$\Delta_\sigma = 0.0024 \times 300 \approx 0.7 \text{ (cm)}. \quad (10.27)$$

Therefore, if on the first turns this error is approximately *0.1 – 0.2* cm and it can be neglected, then, beginning with the middle turns, it not only increases to the error of the constructions, but also is nonlinear, since it depends on the azimuth, and therefore its practical consideration requires special calculations.

And although when plotting the spiral template on the site {→ 10.9}, along which the stones to be installed, the error of this type can be taken into account by making corrections for each radius and the corresponding angle, one should not discount, that in a number of cases the marking needs to be done above the set up stones, and in this case making the measurements along the earth's surface becomes already impossible, but there are no obstacles to using the method of horizontal constructions.

→ Thus, at the angle of inclination of the site to the plane of the horizon, equal to $\sigma \approx 4°$, the relative deviation of the length of the segment measured on the inclined plane from the length of its projection to the horizontal plane is $\delta_\sigma \approx 0.2\%$ in the direction of S-N, and decreases to *0* when measuring lengths in the direction E-W. At the same time, for the average radius of the outer turn of the labyrinth, equal to 3 m, in absolute terms the deviation δ_σ is already a significant value of $\Delta_\sigma \approx 0.7$ cm.

→ Therefore, taking into account the need for marking the site both without stones and with stones, the use of the method of horizontal construction, which does not introduce a method error, should be considered as optimal. In this case, the marking error will be determined only by the error in plotting and measurement not exceeding approximately *0.5* cm.

That is why this method was used in marking and building a labyrinth.

10.6.2. The astrological significance of astronomical alignment of the labyrinth

Drawing an analogy, one can liken the granite coils of the labyrinth to a spiral antenna directed to the Cosmos, the alignment of which is determined by the direction of the vertical axis of the labyrinth. From this viewpoint, the object to which it is directed can have a significant impact on the energy-information and space-time properties of the Portal.

That is why it is natural to assume that the Portal is especially sensitive to the influence of a cosmic object or energy flow located at that point in the celestial sphere, to which the vertical axis of the labyrinth at the given moment indicates. The question is to set this orientation so that it is both significant from an astrological point of view, and convenient for practical use.

In this respect, the objects that are scanned by the vertical axis of the labyrinth can exert a special influence on the Portal in addition to that which the objects exert according to their place in Ecliptic, presenting the projection of their actual celestial position.

For identifying such situations, it should be taken into account that during the diurnal rotation of the Earth, this axis describes on the celestial sphere a circle around the Polar star (Fig. 10.12). Dealing with the plot of this track on the map of the Celestial sphere as with a moving map of the sky, allows us to determine the moments when the vertical axis of the labyrinth points to the respective star.

For accurate determining the point of this circle which is currently indicated by the vertical axis, as well as for defining the moment when this axis will pass a star we are interested in, traditional astronomical techniques can be used, for example – the Web applications presenting the a moving map of the sky, or

astrological programs which allow us to take into consideration the other aspects of the transiting and natal charts as well.

In accordance with the given below approach, the same technique can be used to identify important moment when a star or a planet culminates, or the ecliptic projection of a celestial body is located at the azimuth of the target object, especially when it ascends or descends at this azimuth, viz. lies on the axis Asc-Dsc.

10.6.3. The occult significance of astronomical alignment of the labyrinth to the North Star

Remind that the Polar Star, at present – Polaris, indicates the direction to the North (and Celestial pole) in the sense that the line from the place of observation to its projection on the horizon specifies the meridian of the place of observation in the direction of the North Pole of the Earth.

Therefore, in any astrological chart, transit or natal, the Polar star will always be on the meridian – at the point Ic, which corresponds to the ecliptic point of the lower transit ("behind the Earth"). But this is only if we talk about projection on Ecliptic; in fact, in the Northern Hemisphere, this star is always above the horizon, and in the high and middle latitudes it is close enough to the zenith.

The peculiarity of the considered labyrinth is that both one of its horizontal axes, and the vertical axis are aligned along the meridian; moreover, the latter is inclined toward the Polar Star; therefore, the influence of this star on the Portal will be permanent, and in the transit charts – manifested at the point Ic.

And although the slope of the vertical axis to North (zenith distance) is not too large – about *4º*, this is sufficient to denote its astronomical azimuth with a value equal to 180º (in *geodesy*, this azimuth makes *0º*).

Thus, not only the entrance to the labyrinth, but one of its horizontal axes, and its plane as a whole are oriented to the North and the Polar Star, which, as said above, have a special occult significance in terms of the quality of the perceived energies of the Subtle Planes.

10.7. Astrological properties of the Portal

10.7.1. Astrological passport of the Portal and who "pastes" new photos into it

The traditional astrological approach allows us to describe the properties and predict the occurrence of events not only for humans, but, with the corresponding amendments, to other types of objects – cities, organizations, technical and other objects for which the time of their formation is known; in this respect is not an exception and the Portal, understood as a labyrinth with its inherent occult properties.

At the same time, knowledge of the factors of astrological influence of a celestial body or a direction allows us to choose the time for passing the Portal in order to take advantage of this influence, if it is favourable, or vice versa – to exclude the passage of the Portal at a time when it is unfavourable.

Therefore, first of all, consider some astrological models which are used in astrological analysis, and then – how they are related to the design features of the labyrinth with respect to its geographic, astronomical and other settings.

* Natal chart of the Portal (Fig. 10.14a). The place where the labyrinth is built is known, as the date and the moment of time of the completion of building, since the author of this work has constructed it himself and when he decided that the labyrinth was ready for functioning as a Portal, and no more improvement should be made, he laid down the instruments and looked at the watch. So, that moment is naturally to accept as the time of origination of the Portal.

By these birth data (place, date and time) we can get the natal chart ***of*** this labyrinth-portal (Fig. 10.14a), and use it to determine the effects that are characteristic of this object on an ongoing basis.

Notice, that in vast masses it not accurately is called a "horoscope", since the latter term denotes the rising degree of the Ecliptic – in this case the fourth degree of Sagittarius (*3° ♐ 26'*), which is called the Ascendant (**Asc**) and largely determines the general properties of the Portal.

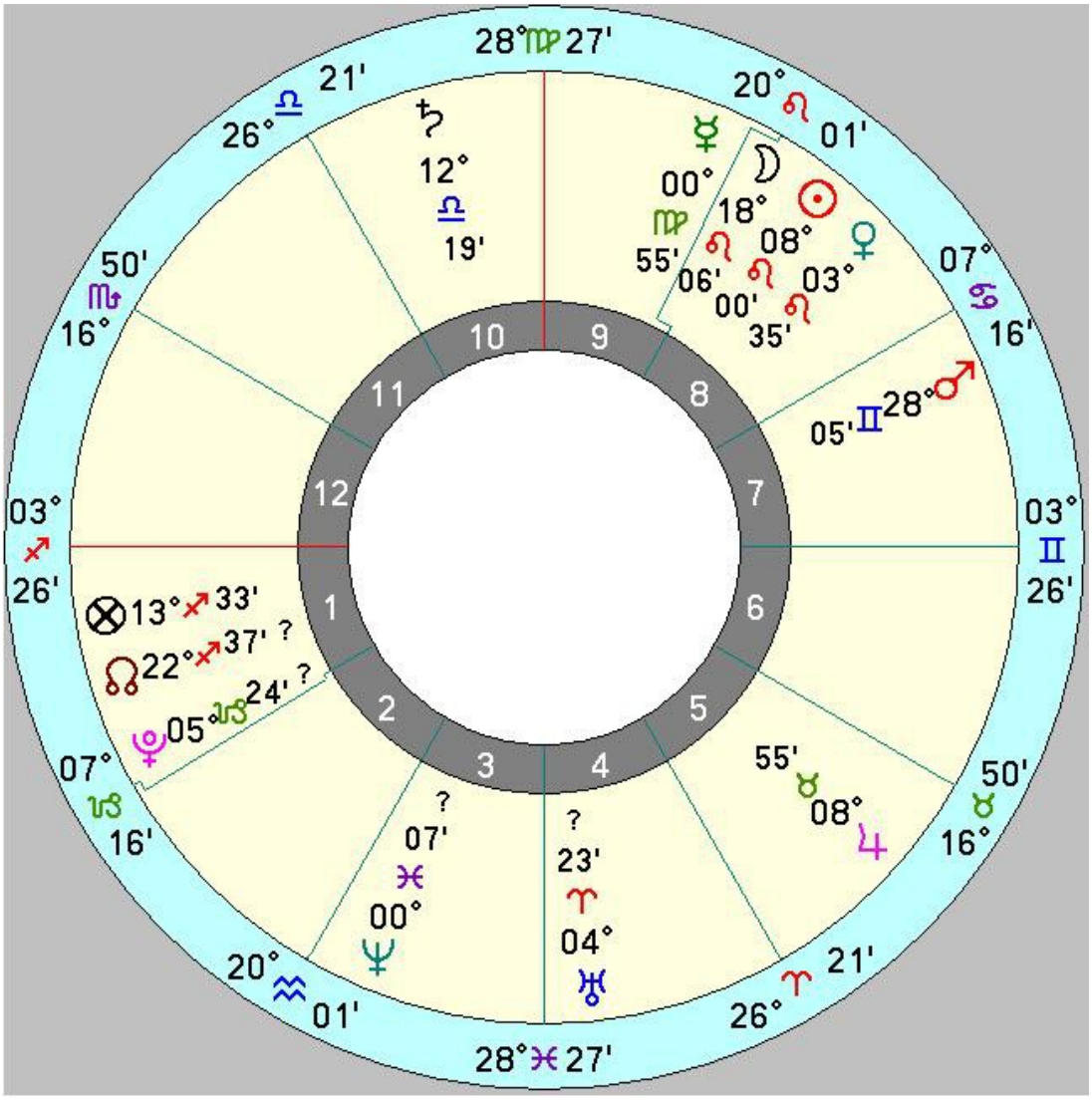


Fig. 10.14.a. Natal Chart of the considered Portal
[July 31, 2011, 15:54 (GMT 12:54), 50° 11' 28'' N, 36° 16' 49'' W (North of Kharkov)]

* Local Horizon Map (Fig. 10.14.b) defines the locations (lines) in which the planets, according to their position in the chart of the Portal, enhance their influence over the world. This influence reflects the properties of these planets which originate from their positions and aspects in the Portal's chart.

For example, as can be seen from Fig. 10.14.b, the influence inherent in Portal's Mars ♂ most intensely exerts on the line Australia-India-Central Asia-Kharkov-Poland-Germany-England-Venezuela-Peru. In the neighbourhood with it (along Tibet and Kailas) the energy line of Pluto passes through. With an admissible orb at about *5°*, the Uranus line passes through the Great Pyramid area, and the Jupiter line is near the above-mentioned Pyramids of Mexico. The lines of Mars, Jupiter, Saturn, Uranus cover the classical region of the distribution of labyrinths in the North of Europe, whereas the lines of Mercury and Neptune – the area of distribution of stone labyrinths in Western Siberia {→ 8}.

These influences, apart from the target-object (geodesic) markers and amplifiers, may also be taken into account when the Portal is to be tuned to the respective area.

* Astro Locality Map (Fig. 10.14.c) defines the locations (lines) over the world, in which the planets, according to their position in the chart, enhance their influence due to their appearing on the cardinal points,

such as Asc, Dsc, Mc, Ic, as a result of relocation of the object for which the chart is compiled. In the case with the stone labyrinth, this map can be used for the mobile image of the labyrinth (e.g. Photo), which, as the experiments have shown, also act as a Portal, reflecting the features of the stone original.

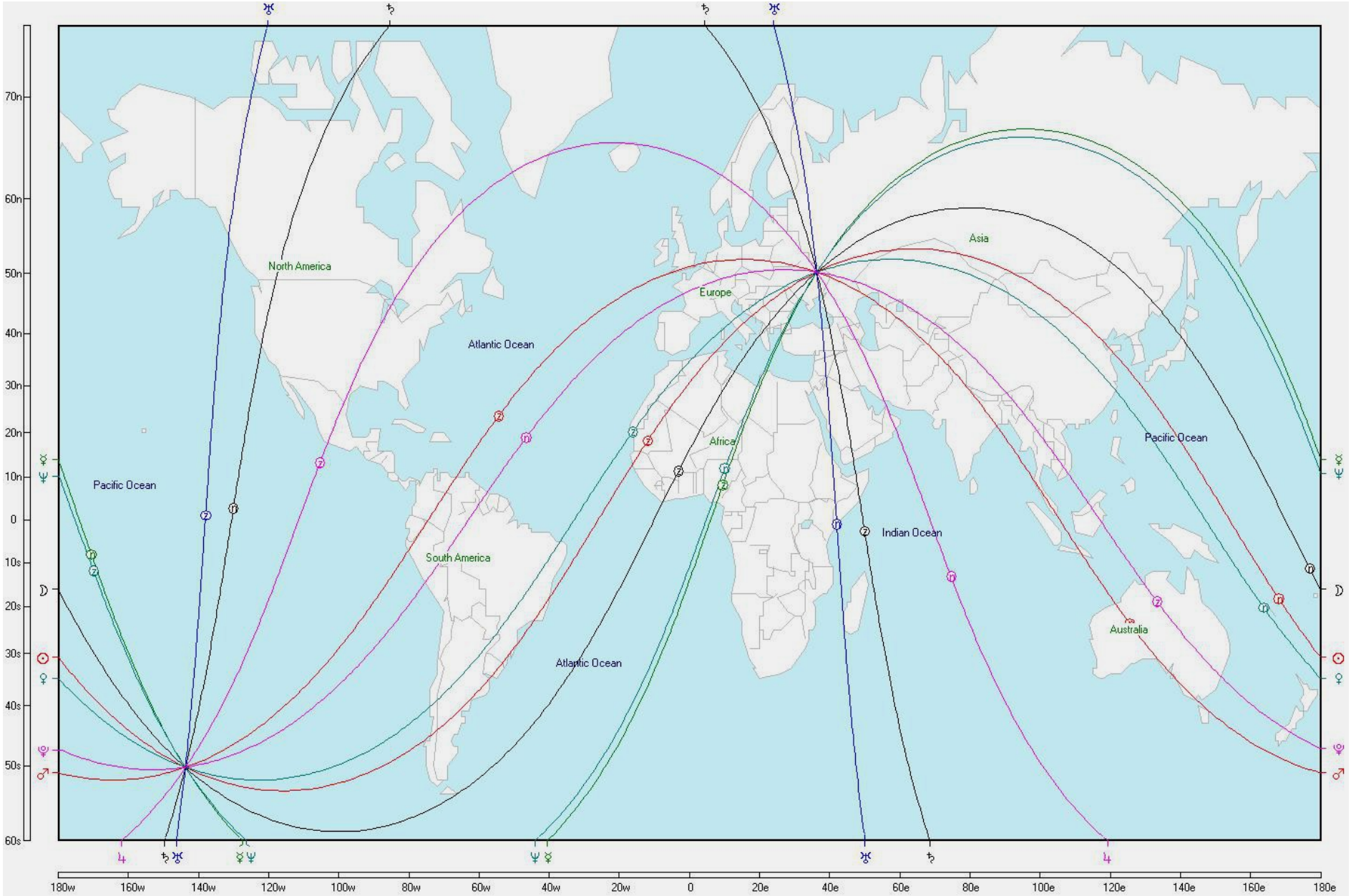


Fig. 10.14.b. The Local Horizon Map, determining the geographical concentration of influence which the planets of the Portal's chart exert

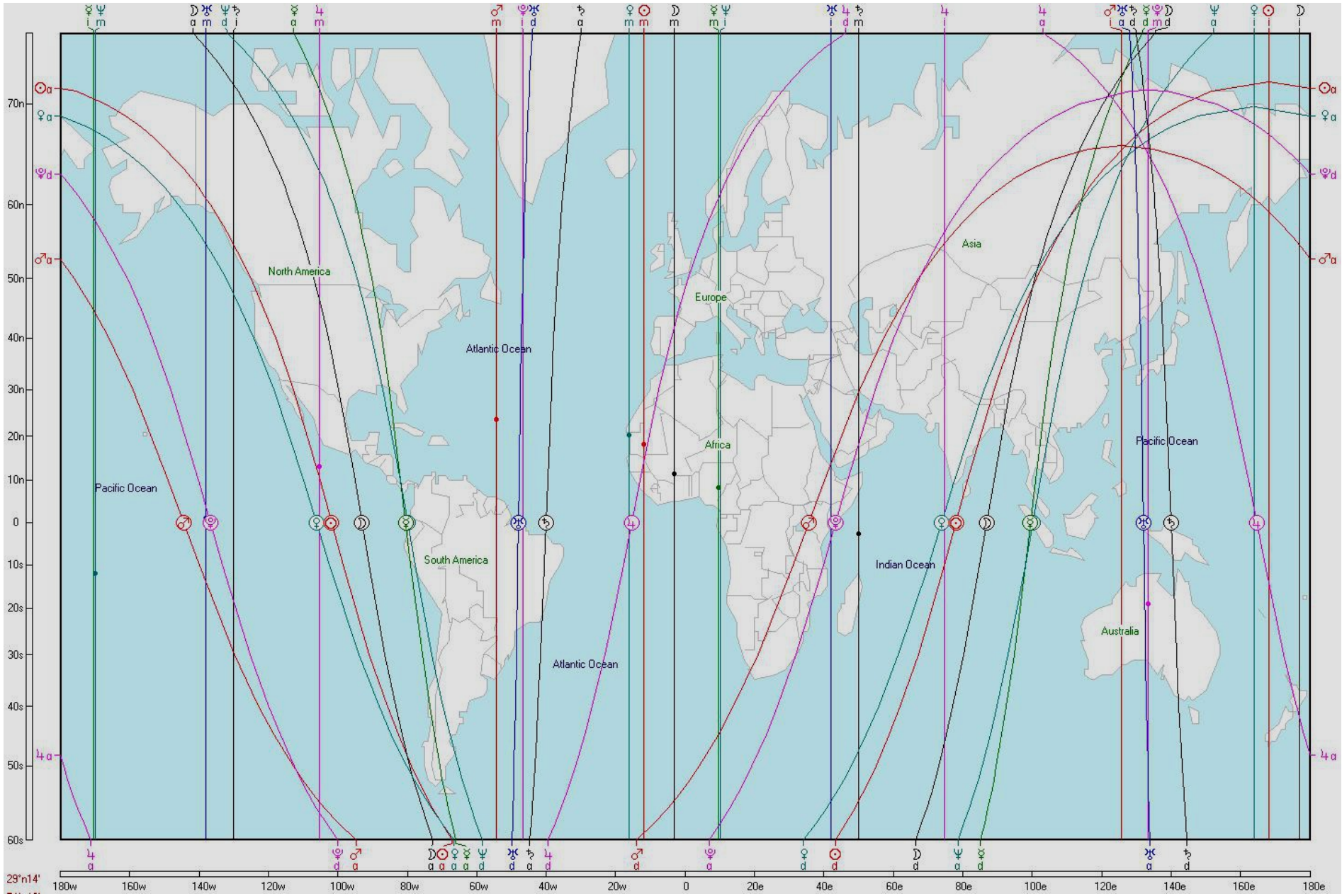


Fig. 10.14.c. The Astro Locality Map, determining the variation of the Portal chart planets' influence for a place of relocation (e.g. a Portal Photo)

The natal chart remains unchanged in time, and therefore it can be described figuratively as the "astrological passport of the Portal". But in life there is nothing permanent, and although the natal chart always reflects the properties of the Portal, these properties are modified both by continuous changes in the distribution of the transiting planets (transits) and by the features of the natal chart of the operator, which indirectly note Sensitives, indicating changes in the distribution of energy fields of the Portal as a reaction to various operators {→ 11.2}, and what we may expect to be reflected in operators own perceptions. Consider what the analysis of such changes is based on.

* Transits. In the case of a natal chart, one speaks of "natal" planets, bearing in mind their position at the time of birth. To assess what impact the cosmos has on a particular object at the time we are interested in, the location of the planets at this time is considered; in particular their current position on the Ecliptic, called transit, and then, in the framework of synastry, the transit chart is compared with the natal one.

In case of the Portal, the positions of the transiting planets may be projected to the circle of the labyrinth; for an operator, the most tangible positions of the planets are the culmination (taking place at the NS-axis of the labyrinth) and the point of Ascension, especially if it is close to the entrance lying on the EW-axis.

* Synastry. In order to identify the mutual influence of objects, or an impact of a transit to the object, an approach called the synastry has been developed, that allows one to analyze how the interaction between two objects representing two persons, or a person and an object of another kind will flow.

In particular, to assess the current impact of the Cosmos on some object, a synastry of the transit situation with the natal chart of this object is analyzed. For this, the Zodiacal positions of the planets in the transit and natal chart are compared, the angles between them (viz. aspects), et al.

In case of the Portal, this approach is modified so that a person residing in the labyrinth, falls under the influence of the Portal, and therefore the transit chart increases its effectuality, especially when a significant planet culminates or ascends.

* Predicting changes in the influence of the Portal by its natal chart. Thus, having a natal chart of the Portal and a natal chart of a person, it is seemingly possible on a permanent basis to assess the general features of the portal's impact on this person.

At the same time, this background effect is influenced by the transit situation at the time a person resides in the Portal, which, according to experiments {→ 11.2}, in certain cases has a dominant influence on both the Portal and the operator. For this reason the estimation of effectuality of the former alternative requires acquiring a statistics, for averaging the transit effects; this question was not studied yet.

Also important are the progressions of the planets, which in their significance can be likened to the hour hand, as the transit – to the minute hand; other approaches are also possible, but require additional experiments to be conducted.

* Features of transit influence with respect to the construction of the labyrinth. In addition to what is said about the properties of the Portal, explained by its natal chart, synastry, and transits, a number of features of the design of the labyrinth itself, first of all – the axes and the markers, when coincide with projections of special points of Ecliptic, can cause an increase in the influence of these points over the Portal, and through it – on the operator in it. In more detail they are mentioned below.

> → Thus, the considered labyrinth acts as an adjustable amplifier of the Cosmic and terrestrial influence; in particular, due to the particularities of its design which increase the impacts of the Celestial bodies as they are described astrologically, and by virtue of the interaction with the chosen and/or arbitrary target objects. As the result, this influence manifests itself in energy-information and space-time perceptions of an operator residing in the labyrinth, which he would not feel outside it. In this respect the labyrinth presents a Portal , that is an Occult instrument, allowing to transfer the cosmic influence and to set up the terrestrial bonds (at least with the chosen sacred objects).

Consider now, what constructive features of the labyrinth and in what moments can contribute to strengthen the influence of the Cosmos and terrestrial objects of high occult significance.

10.7.2. Astrological aspects of the geographical adjustment of the Portal

From astrological point of view, the dominant transit influences, in general, are most significantly manifested when a celestial body passes the points corresponding to Mc ("Middle of the Sky") and Asc ("Ascendant"); so in terms of their influence on the Portal, the question arises as to how these points relate to the labyrinth construction.

In a broader sense, the question also arises as to when the transit situation, that is the actual configuration of Sun, planets and stars in the celestial sphere, can have an influence on the effectiveness of the manifestation of the specific points of the labyrinth itself; in particular – on the geodesic markers.

Technically, the answers to these questions are determined primarily by the geodesic and astronomical settings of the labyrinth in the sense of its orientation.

* The culmination of celestial bodies on the axis of the labyrinth and in the Mc of transit chart. Although much is determined by the features of the planet (or Sun, or star), including its own properties, aspects et al., its influence, other things being equal, becomes especially pronounced at its culmination when the planet rises to the maximal angle above the horizon. Physically, at this moment the planet is located in the plane of the meridian of the site, exactly to the South from the labyrinth; in the transit chart, the planet conjuncts the Mc.

Therefore, it is natural to expect that this influence exerted onto a person in the labyrinth will only increase due to the fact that the longitudinal axis of the labyrinth is also directed along the meridian, in other words – along the NS-line.

→ Thus, the very design of the labyrinth ***is conducive to*** a significant increase in the impact ***of*** the culminating planet ***on*** the operator, residing in it, which is especially noticeable in dynamics when the operator compares his state during the culmination and outside the interval of its influence {→ 11.2, 11.9}.

→ Because of this feature, the considered labyrinth ***can*** also ***be viewed as*** a kind of physical implementation ***of*** the transit chart for the given site, which reflects the ongoing planetary configuration on the celestial sphere and strengthens its impact on the person in the Portal, first of all – ***in relation to*** its main axis, Mc-Ic, the physical analogue of which is the axis of the labyrinth, directed along the NS-line.

As follows from what has been said relative to the labyrinth design, the lower transit (when the planet is at Ic) is seemingly also accentuated , although it can be assumed that in general it will have less influence than at Mc. This was not studied experimentally.

Thus, the occult properties of the Portal are largely determined by the geographic alignment of the labyrinth's axis along the meridian of its location; but not only by this.

* Ascendant. As for the Ascendant and the point opposite to it, Descendant, the axis of the transit chart determined by them can also be projected onto the Earth's surface; but unlike the axis Mc-Ic, with the diurnal rotation of the Earth its image in the horizon plane continuously change its azimuth, making oscillations about the East-West axis, which for a site at the latitude 50º have a range of about 38º.

In other words, within twenty-four hours the ascendant deviates from the point of the East by ±38°, only coinciding with it exactly twice per day, when the ecliptic longitude of the ascending point of the Ecliptic (i.e. the Ascendant) makes *0*° (*0*° Aries) and *180*° (*0*° Libra), that is at the points of the equinoxes. An example of this situation on May 24, 2015 is shown in Fig. 10.15. Therefore:

→ At the noon of the day of the Summer Solstice, when the Sun lies within a *30′* orb of the point *0°* Cancer and the labyrinth axes are located relative to the Zodiacal Signs as shown in Fig. 10.15.b, the Sun also resides at Mc within an orb at *30′*. This would cause a powerful energy impact on the Portal. The similar situation takes place on the noon of the Winter Solstice (Fig. 10.15.a.), when the Sun resides within an at *30′* orb of the point *0°* Capricorn.

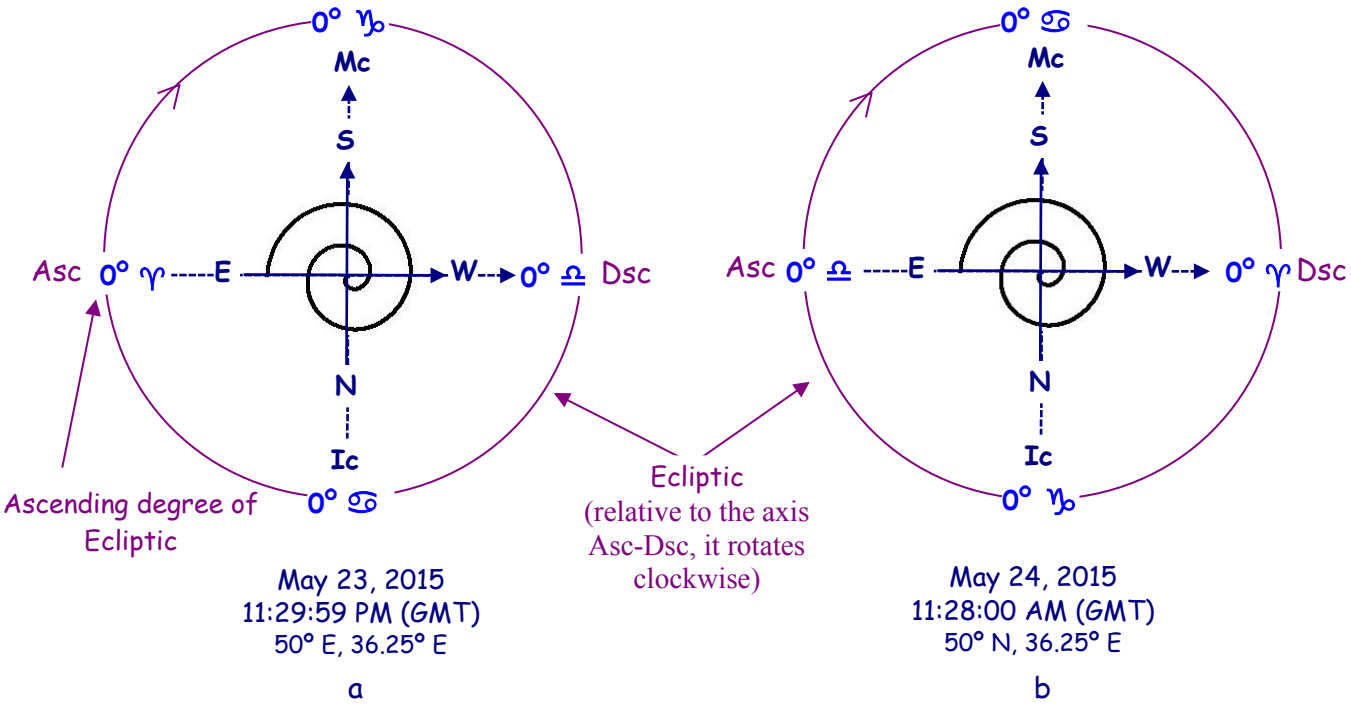


Fig. 10.15. The moments when the transiting axis Asc-Dsc coincides with the E-W axis of the labyrinth

→ Thus, at rising of the point of the equinox, the East-West axis of the labyrinth indicates the exact direction to the points Asc and Dsc, which means that at this moment the both axes of the labyrinth accurately constitute the both axes of the transit chart geographically and astronomically, and in this respect the labyrinth ***represents*** the physical realization ***of*** the transit chart itself. It is natural to consider this situation as that the Portal ***comes into*** resonance ***with*** the main sources of Cosmic and Earth energies, determined by the transit situation, and reflects them in the Subtle Planes. That is why one should expect a significant increase in the influence of planets and stars located at the Ascendant (Asc) and the Descendant (Dsc) as well. In particular, we can conclude the following.

If the longitude of a celestial object ***makes*** 0° (*0°* Aries) or 180° (*0°* Libra), then on ascending its influence on the Portal ***will*** increase significantly, since at this moment it not only resides at the cardinal point and Asc, but also at the E-W axis of the labyrinth.

The likening ***of*** the Portal ***to*** physical implementation ***of*** the transit chart ***acquires*** greater completeness ***when*** the axis of the transit Ascendant ***passes over*** the azimuths ***determining*** the geodesic settings of the labyrinth to the target objects, thus enhancing the link with them.

Taking into account that the axes Asc-Dsc and Mc-Ic move along the Ecliptic with a mean speed of about *1°* in 4 minutes of time, and in astrology a *5°*-orb is considered to be effective, one can expect that the manifestation of these effects ***on*** an operator in the portal is to be long enough – within 40 minutes (± 20 minutes around the moment of exact conjunction), or ~ 10 minutes ***for*** a narrow orb of 1° .

10.7.3. Calculation of the azimuth of the transit Ascendant

As shown above, for a fixed location on the earth's surface, the current position of the Mc-Ic axis of the transit chart reflects the position of the meridian, or NS-line. At this, the point Mc corresponds to the point of the South, and Ic corresponds to the point of the North. Each star or planet, culminating at the moment, is in the chart – at the Ms, and in the projection on the horizon plane – at the point of the South. In this respect, the NS-line accurately represents the Mc-Ic axis of the transit chart.

At the same time, the second main axis of the transit chart, determined by the points of the Ascendant (Asc) and the Descendant (Dsc), continuously changes its azimuth within 24 hours.

Remind that the Ascendant is the point of the Ecliptic, which at the current moment ascends above the horizon for the given location; in other words, this is one of the two intersection points of the Ecliptic plane and the plane of the horizon that rises. The second, opposite point of the Ecliptic (and geographically), which goes beyond the horizon, is called the Descendant. These points are being shifted by one degree of the Ecliptic in about 4 minutes of time, so that almost exactly within a diurnal period the whole circle of the Ecliptic passes through the Ascendant.

The first of them is located Eastwards, and the second – Westwards from the place of observation, but not exactly: its azimuth changes in time. In this respect, the azimuth of the Ascendant represents a function of time, which depends not only on the time of day, but also on the sidereal time of the beginning of the day, the equation of time and longitude of the site. Accounting for all these parameters is possible, but practically uncomfortable; besides, their numerical values, by themselves are rarely needed, except for an analysis of the transit chart.

Thus, for astrological purposes, the knowledge of the Ascendant (as the degree of the ecliptic longitude) is generally required for the analysis of the transit situation in which the ecliptic longitude is known, or a moment is sought when this longitude takes definite value (e.g. defines the position of some object). Therefore, from a practical point of view it is more purposeful to look for the dependence of the azimuth of the Ascendant not on time, but on its ecliptic longitude. After then, with the use of astrological soft, it is easy to define the time when the considered situation takes place; e.g. the Ascendant conjuncts a planet, or a geodesic marker.

* Azimuth of the Ascendant as a function of ecliptic longitude. As shown above {→ 2.1.1}, the azimuth of the rising point of a celestial body disposed at the Ecliptic, without taking into account the refraction and angular radius, is determined as follows

$$cos\, A = -\frac{sin\,\delta}{cos\,\varphi}, \tag{10.28}$$

where δ – is the declination of this body, and φ – is the latitude of the place of observation. At this

$A_1 = A$ – is the azimuth of the setting point of Ecliptic (viz. of the Descendant), (10.29)

$A_2 = 360° - A$ – is the azimuth of the rising point of Ecliptic (viz. of the Ascendant) (10.29′)

Remind that the (astronomical) azimuth is the arc of the mathematical horizon from the point of the South to the vertical circle passing through the luminary, measured in the direction of the diurnal rotation of the celestial sphere, that is to the West from the point of the South.

But in this case we consider not a celestial body, but simply the point of the Ecliptic, which is not influenced by the factors mentioned above (refractions, etc.), and therefore the relation (10.28) specifies the required azimuth with high accuracy; the only thing that needs to be done with it is to transfer from the declination δ to the ecliptic longitude λ.

Since in this case we consider the point of the Ecliptic, its ecliptic latitude β is equal to zero, and hence the declination δ as a function of longitude λ is defined as follows

$$\delta = arcsin\left(sin\,\beta \cdot cos\,\varepsilon + cos\,\beta \cdot sin\,\varepsilon \cdot sin\,\lambda\right) = arcsin\left(sin\,\varepsilon \cdot sin\,\lambda\right),$$

or

$$sin\,\delta = sin\,\varepsilon \cdot sin\,\lambda, \tag{10.30}$$

where $\varepsilon = 23.438056°$ is the angle of inclination of the Ecliptic plane to the plane of Equator, and then

$$cos\, A = -\frac{sin\,\varepsilon \cdot sin\,\lambda}{cos\,\varphi}. \tag{10.31}$$

So, for the considered geographical latitude $\varphi = 50°$ we obtain

$$A = arccos\left(-0.618801 \cdot \sin\lambda\right), \tag{10.32}$$

from which it follows that the angles A_1 (Descendant) and A_2 (Ascendant) can take the values in the following ranges

$$A_1 \in [\, A_1^{min} = 51.77°, A_1^{max} = 128.23° \,], \tag{10.33}$$

$$A_2 \in [\, A_2^{min} = 231.77°, A_2^{max} = 308.23° \,]. \tag{10.34}$$

At this, the azimuths A^{min}, A^{max}, which are deflected from the true East and West by the maximal angle $\alpha = \pm 38.23°$, on each day of the year are determined by the ascending points of the solstices:

– The azimuths of the rising and setting of the point $0°$ ♑ are maximally advanced to the South – to the positions where the Sun rises and sets at the Winter Solstice;

– The azimuths of the rising and setting of the point $0°$ ♋ are maximally advanced to the North – to the positions where the Sun rises and sets at the Summer Solstice;

At the same time, if any of the Equinox points ascends, the rising and setting azimuths lie exactly on the East-West geographical axis:

– at ascent of the point of Spring Equinox ($\lambda = 0°$, or $0°$ ♈), we obtain $\overline{A}_1 = 90°$, $\overline{A}_2 = 270°$;

– at ascent of the point of Autumnal Equinox ($\lambda = 180°$, or $0°$ ♎), we obtain $\overline{A}_1 = 90°$, $\overline{A}_2 = 270°$.

So, in both cases the point Asc coincides with the point of the East, and Dsc - with the point of the West.

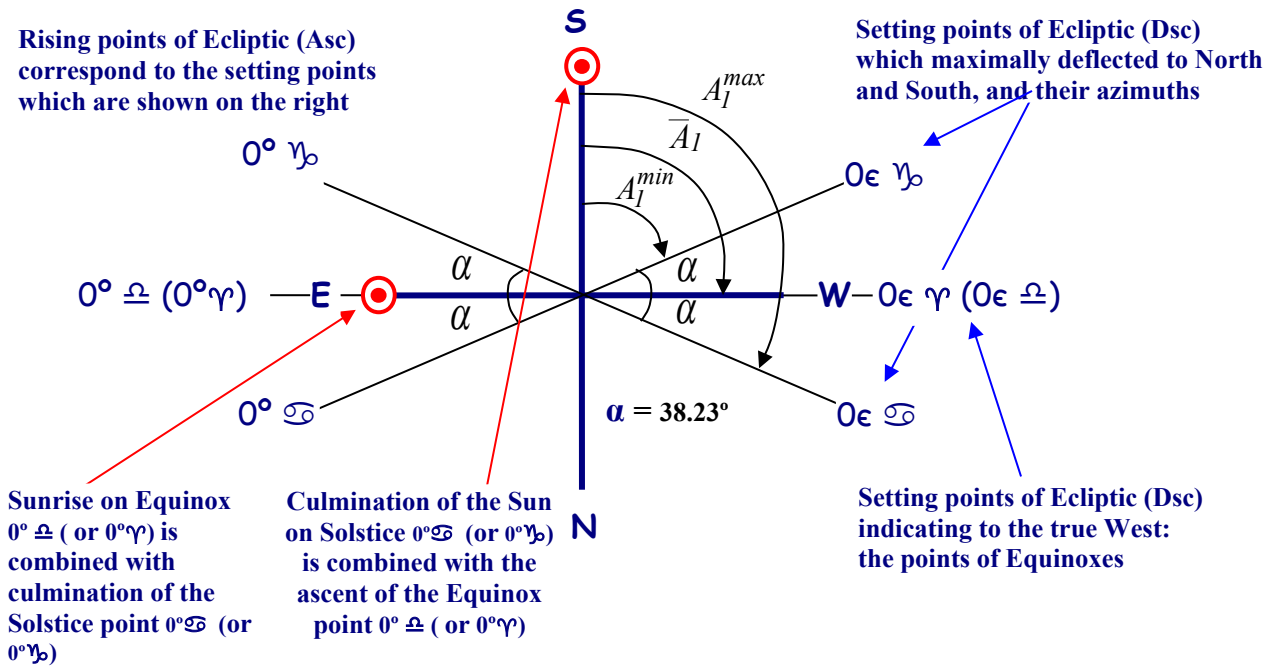


Fig. 10.16. The azimuths of the daily rising and setting of the cardinal points of the Ecliptic
The remaining points of the Ecliptic rise and set in the interval between the shown directions. The rising and setting directions are symmetrical relative to the NS-axis.

Thus, twice a day, at the rising of the points of equinoxes, the cardinal axes of the transit chart exactly coincide with the axes of the labyrinth, which strengthens cosmic influences through the Portal.

The influence of these transit situations increases at the solstices, since in this case the Sun is located at Mc or Ic with the small orb (up to $0.5°$), and at the equinoxes, when the rising (setting) Sun is simultaneously at the Ascendant and the true East (Descendent and true West).

In Fig. 10.16 these situations are shown for the culmination and ascent of the Sun, when its longitudes are 0^o♋ and 0^o♎, respectively.

10.7.4. The location of the transit ascendant at the azimuths of the chosen artefacts

Considering the importance of both the directions for the chosen artefacts (target objects) and the transit position of the Ascendant, it is of interest to find out with what degrees of the Ecliptic the azimuths of these directions are related. The answer to this question allows us to determine the time periods when the cosmic influence itself will contribute to the strengthening of the Portal's relationship with the corresponding artefacts, namely, when the Ascendant points to each of them. Note in this respect that, since these degrees are calculated from the geographic location of the labyrinth, the correlations obtained are inherent in this Portal only; for reference, we explain the method for calculating them as well.

In addition, knowing of the degrees, pertaining to these directions, can reveal the increased individual predisposition of a person, residing in the Portal, to interact with these objects, the degrees of which correlate with the actual points of his natal or progressive chart. This predisposition may be manifested on an ongoing basis, and intensified even more, when the Ascendant conjuncts the corresponding direction.

* Ecliptic longitude of the Ascendant as a function of azimuth. So, for given azimuths to the chosen objects, we want to find the longitude of the ascending and/or descending points of the Ecliptic. Note at once that this problem has a solution not for all azimuths, but only for those that lie within the limits $\pm 38.23°$ of the axis East-West, that is for those which satisfy the conditions (10.33), (10.34). Those of them that are directed Eastwards, are correlated with the Ascendant, and Westwards – with the Descendant.

As a result, only four directions are considered, indicated in Table. 10.10. In the same table, the geodetic azimuths obtained above are converted into astronomical ones, which are used in the formulas below.

To solve the stated problem, transform (10.31) to the following presentation

$$\sin\lambda = -\frac{\cos\varphi}{\sin\varepsilon}\times\cos A\,. \tag{10.35}$$

Notice, that this equation has two roots. Denote

$$z = -\frac{\cos\varphi}{\sin\varepsilon}\times\cos A\,.$$

In this case

if $z > 0$, then: (10.36)

$$\begin{cases}\lambda_1 = \arcsin z,\\ \lambda_2 = 180° - \lambda_1.\end{cases}$$

if $z < 0$, then $\arcsin z < 0$ and we obtain (10.37)

$$\begin{cases}\lambda_1 = \arcsin z + 360°,\\ \lambda_2 = 180° - \arcsin z.\end{cases}$$

The presence of two roots (values of ecliptic longitude) means that with each azimuth the Ascendant coincides twice a day. In dynamics this situation is described in Fig. 10.17.

So, after coinciding with the direction to the East, when the longitude of the Ascendant is 180º (or 0º ♎), its azimuth and longitude continue to grow, until at the longitude of **24.78º** ♎ the Ascendant coincides with the azimuth A#2. After some time, at a longitude of **2.25º** ♏, the Ascendant coincides with the azimuth A#3, and then reaches the maximal azimuth at the longitude of $0°$ ♑. After that, the longitude of the Ascendant continues to grow, but the azimuth begins to decrease, and until the longitude has reached $0°$ ♈, the Ascendant will pass the same azimuths, but in the inverse order and at other longitudes: **27.75º**♒, and then **5.22º**♓.

In the second half of the cycle - when the longitude of the ascending point of the Ecliptic changes from $0°$ ♈ to $0°$ ♋, and then - from $0°$ ♋ to $0°$ ♎, the Ascendant does not coincide with any of the chosen directions. After then, the situation described above repeats again.

A similar situation unfolds with the Descendant and the azimuths A#6 and A#7 but already for the descending points of the Ecliptic.

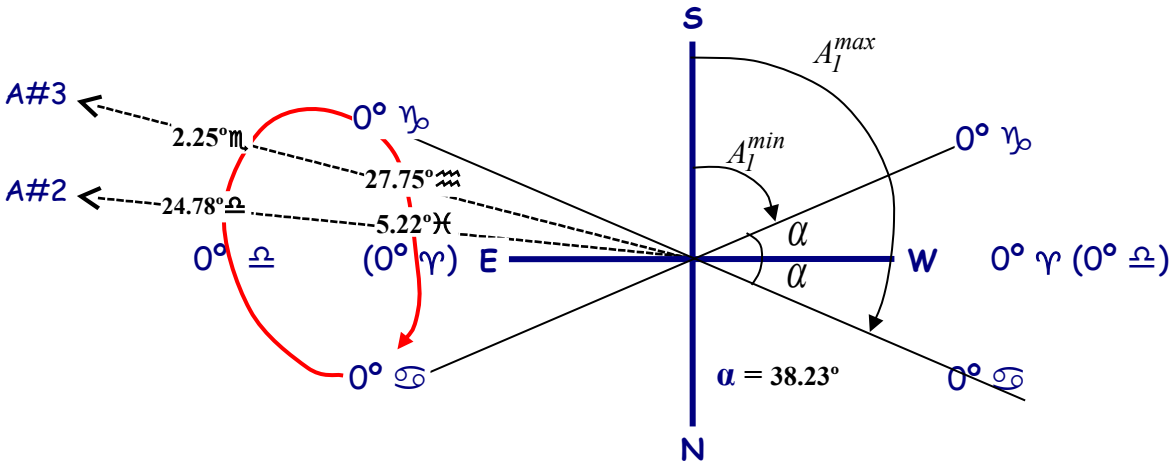


Fig. 10.17. The diurnal motion of the Ascendant along the Ecliptic and its azimuths

The red arc shows how the longitude of Ascendant changes over 24 hours. The starting point depends on the date

Table 10.10. The ascending and descending degrees of Ecliptic for directions to the target objects

Direction		Geodesic azimuth*)	Astronomical azimuth*)	Asc/Dsc	Longitude λ_1 and date**)	Longitude λ_2 and date**)
Manali	A# 2	105.09	285.09	Asc	335.21942° (5.22° ♓) 23-24 Feb.	204.78058° (24.78° ♎) 17-18 Oct.
Amritsar	A# 3	109.36	289.36	Asc	327.74839° (27.75° ♒) 16-17 Feb.	212.25161° (2.25° ♏) 24-25 Oct.
Stonehenge	A# 6	- 72.78	107.22	Dsc	28.45141° (28.45° ♈) 17-18 Apr.	151.54867° (1.55° ♍) 24-25 Aug.
Newgrange	A# 7	- 65.65	114.35	Dsc	41.58683° (11.59° ♉) 1-2 May	138.41313° (18.41° ♌) 10-11 Aug.

*) The angles are rounded up to about minutes; for more precise values See Tables 10.1 – 10.7.

**) The dates correspond to the period when the Sun rises at the respective azimuth - See below.

Remind that the calculation of the moments, when the azimuth of Ascendant or Descendant conjuncts the given direction, is possible, but in view of the fairly rapid change in longitude (~ 1° for 4 minutes), it requires very accurate accounting of time of day, sidereal time and other parameters; this is practically inefficient, and also inconvenient for the sake of scheduling the time for passing the labyrinth. Much more effective for this is the use of a conventional astrological program.

* Days of the year when the Sun rises at the azimuth of the direction to the chosen object

When at the sunrise the longitude of the Sun is equal to λ_1 or λ_2, which correspond to the azimuths A#2 and A#3, its appearing at the Ascendant takes place at the corresponding azimuth, A#2 or A#3. In this situation it is naturally to expect a significant increase of the occult influence of the Sun on the Portal, thus playing in favour of operator's interaction with the object to which this direction indicates.

A similar situation occurs for the moments of sunset at the azimuths A#6 and A#7.

But in practice such a situation occurs when the longitude of the Sun deviates from the indicated values within *0.5°*. On the other hand, the diameter of the sun itself is approximately *0.5°*.

Therefore, practically this situation takes place at that sunrise (sunset), when the longitude of the Sun has a value being the closest to those indicated in Table 10.10. With an orb at *1°* - for about two or three days (± 1 day from the indicated), and with an orb at *5°* - for about *10* sunrises (± 5 days from the indicated).

10.7.5. Astrological tuning of the Portal to celestial bodies and terrestrial objects

* Tuning the Portal to the natal chart. The general properties of the Portal, which are described by its natal chart (Fig. 10.14.), remain unchanged. But in this chart there are, so to say, "sensitive points", determined primarily by the position of the planets and axes, and when a transiting or other planet or other significant elements conjuncts someone of them, in accordance with the general astrological rule this leads to resonance, which in this case can be understood as changing the energy of the Portal in accordance with the nature of the concerned objects.

The effects of such conjunctions require specific consideration.

* Tuning of the artefact direction to the Portal's natal planet. In the design of the labyrinth there are two azimuths specifying the directions to the chosen objects, **A#6** and **A#7** (Table 10.10), which scan the entire Ecliptic in a daily rhythm, but once per day, each of them aligns to the setting degree, which determines the natal position of the planets of the Portal, thereby strengthening its energy connection with the chosen object and "colouring" it with the influence of the corresponding planet.

Namely with an orb less than *1°*:

> Natal Moon (***18.1°*** ♌) of the Portal fits the transiting Descendant (***18.41°*** ♌), the azimuth of which coincides with the direction to Newgrange;
>
> Natal Mercury (***0.92°*** ♍) of the Portal fits the transiting Descendant (***1.55°*** ♍), the azimuth of which coincides with the direction to Stonehenge.

Interaction at this channel will intensify to an even greater extent, if there is a planet at the transiting Descendent. In particular, once a year within an orbit, not exceeding *0.5°*, these points are passed by the Sun, which strengthens the energy of the channel; for example, in 2015 – on August 11 and 24, resp.

In these cases, the tuning presumes assessing the quality of the influence and deciding whether to use, or ignore it.

* Tuning the Portal by a transit chart. But still the general task is to establish all situations and their moments when the current influence of the Cosmos (stars, the Sun and planets, as well as special points of the Ecliptic) in combination with the geographic and astronomical alignments of the labyrinth manifest themselves in the properties of the Portal and its interaction with objects on chosen directions.

The solution to this problem is proposed in two aspects. On the one hand, it is described how the factors of influence can be identified with the use of the transit chart and the position of stars on the celestial sphere.

On the other hand, it is shown how this chart and the celestial sphere relate to the physical construction of the labyrinth, which made it possible to analyze the position of cosmic objects relative to the horizontal and vertical axes of the labyrinth, and on this basis to obtain analytical relationships for determining the moments when their effect on the Portal becomes especially significant, and also enhances its interaction with artefacts located on chosen directions.

In practical terms, this allows us to choose the factors of influence determined by the astrological interpretation of the transit configurations of planets and stars, as well as the features of the selected objects that favour the solution of particular problems (healing, clairvoyance, mental tuning to artefacts, temples, etc.), and to determine the moments of time when the influence of these factors is most effective, on the basis of the correlation of the current coordinates of celestial bodies and/or the cardinal points of the Ecliptic with the axes of the labyrinth and the azimuths of the selected objects.

At the same time, the task of a detailed "theoretical" description of the qualitative side of these aspects of influence was not posed, first of all – because it would require writing a whole book; for the non-astrologer, these explanations would still mean little, whereas an astrologer does not need such a description, since, in general, it would repeat the known truths of personal and mundane astrology with some obvious interpretations regarding the objects under consideration. Nonetheless, the descriptions of such effects, that were perceived by the operators, are presented below {→ 11.2}.

In any case, we hope that the comments given in the text, which explain the significance of the considered objects and interrelationships, are sufficient to understand the essence of the methods for identifying different types of occult influence that can be manifested in the Portal at the predicted periods of time, and also how one can assess the qualitative aspects of this influence, relying on common properties of the analyzed objects, and with respect to an individual, by guiding his natal chart.

It is also important to note, that these effects can be both favourable and unfavourable, and not in general, but in relation to an individual or tasks that are put on for passing the Portal.

* The Rule of assessment of the force of influence. In terms of astrological interpretation of the significance of such situations, it is worth noting the general rule that the power of manifestation of influence is the stronger, the more indications of its appearance are manifested in the heavenly configuration.

Usually this rule is used to predict the occurrence of events inherent in the corresponding configurations. Yet in the considered cases, we are not talking about events (their identification requires consideration of the specifics of configurations with respect to planets, aspects, etc.), but only about the presence of the influence itself, which is amplified by the appearance of planets, primarily the Sun, and stars at the transit chart axes (Mc-Ic and Asc-Dsc) and azimuths of directions.

* The significant points of the transit chart. Note the most important points of the Ecliptic and the situations, the appearing of which in the transit chart contributes to the change in the energy of the Portal due to their mapping on the axis and the chosen azimuths of the labyrinth.

Planets, Ecliptic cardinal points and other special points. As in other cases, the conjunction of a planet with the axis of Mc-Ic or Asc-Dsc, or other planets (including the synastry) enhances the influence of this planet according to its features. And this influence is increased even more, when there are several of them and/or they are connected by significant aspects with other critical points of the transit chart.

Therefore, we do not consider the intensification of the influence of situations and their colouring caused by the conjunctions of planets with cardinal points, considering this for granted, but we are talking about the variable properties specified by the cardinal points of the transit chart, since it is their conjunctions with the axes and selected directions of the labyrinth that create the most significant prerequisites for rendering planets of their influence on the Portal.

The planets may show their influence also in other positions, in particular when they pass the azimuths of the chosen directions, but this should already be considered as an impact of a lesser level of significance.

To the same extent, the stars and the centre of the Galaxy are also important, as well as some points of the Ecliptic itself, especially its cardinal points (*0°* ♈, *0°* ♋, *0°* ♎, *0°* ♑) and, as we can assume, those ones (*10°* ♉, *20°* ♌, *10°* ♏, *20°* ♒) which specify the astronomical alignment of the Pyramid of the Sun {→ 2.6}, Passage mounds {→ 2.9}, and the Celtic calendar {→ 2.11}. The significance of each degree of the Ecliptic can also be estimated in terms of Sabian symbols.

The cardinal points of the transit chart: to them, we refer the points of the Ecliptic that define Mc, Asc, Dsc and Ic of the transit chart. Mc has a high significance in general, and for the Portal – in particular. The next important element is the point of the Ascendant, and then – Dsc and Ic. All of them are significant in themselves, forming a kind of channels of penetration of the cosmic energies of the Subtle Planes, which are "coloured" with the specifics of the degree and the Sign of the Zodiac where they locate.

Passage of a celestial body over the Mc (culmination of planets and stars at the axis of Portal). When space objects, including stars, the Sun, the Moon and other planets, culminate, they have the maximal height above the horizon and are located on the meridian of the labyrinth, exactly at the true South. At this moment their influence is maximally manifested on the whole, and in relation to the labyrinth – in particular, because in the plane of the labyrinth its NS-axis, as also the projection of the vertical axis, coincides with the meridian.

Also the point Ic is permanently on this axis of the labyrinth, and points to the Polar Star.

The passage of the points Asc and Dsc over the azimuths of the chosen directions. Unlike the axis Mc-Ic, the axis Asc-Dsc changes its azimuth within 24 hours. At this, the most important are its positions, when the azimuth of this axis coincides with the direction of the chosen objects.

* The most significant elements of the construction of the labyrinth.

The vertical axis of the labyrinth. With its azimuth and ecliptic projection, this axis is oriented to the Polaris, and therefore on an ongoing basis transfers its influence.

At the same time, by its true direction it scans the celestial sphere at the declination *52.5°*, pointing at known stars with the diurnal period (Table 10.9).

Given that this is a direct indication to the star, such a conjunction entails a particularly significant effect, much more effective than in the case of the traditionally considered projections on the Ecliptic. Therefore, the influence of such a star may be considered effectual within the orb of 5°; in time, this makes approximately ± *20* minutes relative to the moment of exact conjunction.

The longitudinal axis of the labyrinth, as mentioned above, coincides with the NS-line (meridian, or the North-South geographic axis) and the Mc-Ic axis of the transit chart. This geo-graphical and astronomical correlation with this axis has an unconditional influence on the Portal's energy and is significant in itself, whereas the conjunction of a planet with Mc is enhances its influence on the Portal because the celestial bodies are culminating on the meridian, exerting additional influence on the Portal.

The transverse axis of the labyrinth is oriented along the East-West axis, and therefore on an ongoing basis contributes to the inflow into the Portal of terrestrial and cosmic [49 – 51] energies.

The connection of this axis with the Cosmos is enhanced when the axis Asc-Dsc coincides with it, which occurs twice a day. An additional factor of influence are the equinox points (*0° ♈* and *0° ♎*) which alternatively ascend at the EW-axis.

The geodetic azimuths of the chosen objects (Table 10.8) determine {→ 10.5} the geodesic directions to selected artefacts, temples and other objects of world significance and, as the experiments have shown {→ 11.2}, in the energy-information relation are effective in themselves.

At the same time, twice a day each azimuth of this group (Table 10.10) conjuncts with the transit Ascendant, thus intensifying the connection with the related object on a daily basis.

Moreover, twice a year, and with an orb – for several days around the indicated dates (Table 10.10), at each of these azimuths the Sun rises (at this, it resides at the Ascendant), which gives an additional inflow of energy, specific for the degree of the Ascendant.

* Accounting for an individual chart of an operator. It should be borne in mind that in a natal and progressive map of every person there are sensitive points, the synastric impact on which is especially sensitive for him. From this point of view, even not very significant transit situation, if it causes such an impact, would contribute to a more vivid influence of the Portal to the operator residing in it, in the context of his natal or transit chart. Apparently, the natal planets of the labyrinth can have a similar effect.

* Selective strengthening of planetary influence. Since the labyrinth in the above sense reflects the transit chart, where the meridian defines the Mc and Ic, then placing the images of all or individual planets (for example, their names or photos) along the periphery of the labyrinth, according to their position in the transit chart for the selected moment of time, may increase their influence, if it is required for some purpose.

* The principle of tuning the Portal according to astrological criteria. Thus, choosing a moment of time defining a suitable transit situation, and using amplifiers of geodetic directions and celestial bodies, we get the opportunity to tune the Portal to the perception and strengthening of those energies that are favourable for solving the problems facing the person entering the Portal. Accordingly, it is possible to

reveal the periods of time unfavourable for the passage of the Portal. In doing so, it should be remembered that the effect of the Portal impact largely depends on the natal chart of the operator.

* Practical aspects of scheduling of time for perception of required impacts of the Portal

Thus, with respect to the *predicted* impacts of the Cosmos on the Portal and operator in it, their main sources which allow us to foresee them include the synastry of the transit configuration chart, including the ascending degrees of the Ecliptic, with the Portal's axes and the azimuths to the chosen objects, as well as with the operator's natal chart.

Due to the knowledge of the calculated parameters of the immovable elements of the labyrinth, and the use of astrological programs for calculating the time of sunrise, ascent of certain degree of Ecliptic, et al, the moment of the exact time of the desired effect (for example – the culmination of the Sun) and its azimuth (which could be important for concentration in this direction) without difficulty can be determined to within seconds.

At the same time, although we considered the exact moments of effects, they do not exert their influence "instantaneously"; it is believed in astrology, that before the exact moment of an event the participating celestial body increases its impact, but gradually, and after the exact moment of the event – decreases its influence also gradually. And this situation was actually observed in passing the Portal {→ 11.2}.

Therefore, guided by the astrological position that the most effective is the orb of *1°*, and the active one is the orb of *5°*, and also because the speed of the movement of the Ecliptic about the horizon is about *1°* for *4* minutes of time, we can conclude that the effects discussed above will be most effective within ± 4 minutes with respect to the exact moment of the event, and more or less effective - within ± 20 minutes.

In other words, the most part of the above effects of the impact of the transiting celestial bodies associated with the Ecliptic will be manifested significantly – for about 10 minutes, and noticeably – within 40 minutes. As the experience of passing the labyrinth {→ 11.2} shows, this time is quite enough to feel the effect if a person is capable of this.

* Discussion

In addition to symbols and objects imbedded in the labyrinth's design and construction, which predetermine the connection of this Portal with energies of the higher levels of Subtle Planes and the sacred places of the world (foremost – with the chosen ones), and are considered before and after this section, it is shown that there are also variable cosmic impacts of one-time and periodic nature, which can modify the influence of the Portal's natal chart, even in a dominant way and sometimes – very cardinally {→ 11.2 #39}.

The emergence of these source of influence is explained by that, that in terms of transferring the cosmic and terrestrial influences on Subtle Planes, the Portal acts as an amplifier of the transit influence of Cosmos and sacred objects on the surface of the Earth, and of the Earth itself, and therefore represents a kind of occult analogue of a transit chart and a transceiver of the influence of sacred objects, the communication with which is strengthened when the relevant objects of the transit chart are projected on the corresponding azimuths of the labyrinth thus representing the physical mediator of the Portal.

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Thus, this stone labyrinth, or rather the Portal, can be viewed as a physical realization of the transit chart and simultaneously as a commutator of directions to the sacred objects of world significance specified by the markers (in particular, with accompanying photographs or objects), and not only by them, whereas the Portal engendered by this labyrinth can be considered an occult instrument, reinforcing the influence determined by the transit chart and chosen objects in the relationship of their azimuths and celestial coordinates, which is manifested in the Portal: both in itself (by the evidences of the Sensitives), and in the perceptions of the operators residing in it.

Thus in the Portal a person is subjected to the increased impact of Cosmos and sacred objects, determined by the transit chart and its links with these objects, according to the alignments of the labyrinth.

10. 8. The model of the spiral and its mathematical, metrological and symbolic features

* The equations of Archimedean and logarithmic spirals in the polar coordinate system

Depending on the situation, in the models of Time (psychological, evolutionary, etc.) motion ***along the*** spiral can ***occur*** both from its origin to the periphery ("untwisting"), and in the inverse direction – from its periphery to the origin ("twisting"); the former characterizes the acceleration, and the latter – the deceleration of Time [37].

That is why it is natural to expect that the same time effects may take place in a spiral labyrinth as well.

Mathematically, the spiral on the plane is conveniently to describe by a line parameterized with the polar angle; in this respect, the growth of the parameter corresponds to a movement along the spiral towards its untwisting, i.e. moving off the origin. Below, we follow this approach.

Meanwhile, the spiral is a collective notion. At this, a curve can be called irregular if it reflects the shape of a spiral, but is not described by any analytic function; we do not consider such lines. In mathematics, two main types of spirals are distinguished: Archimedean and logarithmic, analytical models of which are widespread in nature and technology.

Remind {→ 5.2} that in the polar coordinate system $\{O,r,\theta\}$ the position of the point M on the plane is given by the polar angle $\theta = \theta_M$, counted from the given ray Ox counter clockwise, and by the radius $\theta = \theta_M$, equal to the length of the segment OM.

Under these conditions, the equation of the Archimedean spiral (as a function of the radius of the angle) has the form

$$r(\theta) = a \cdot \theta\,, \tag{10.38}$$

where a – is a constant.

This spiral is characterized by that its initial point lies at the origin (point O), and the width of the track is constant and equal to

$$S = 2\pi \cdot a\,. \tag{10.39}$$

Therefore, the remoteness from the origin for the points lying on successive turns of the spiral with the same base angle θ, the complete angles of which constitute θ, $\theta+2\pi$, $\theta+4\pi$, … , increases in the arithmetic progression having the form $a\cdot\theta$, $a\cdot\theta+S$, $a\cdot\theta+2S, a\cdot\theta+3S$ … .

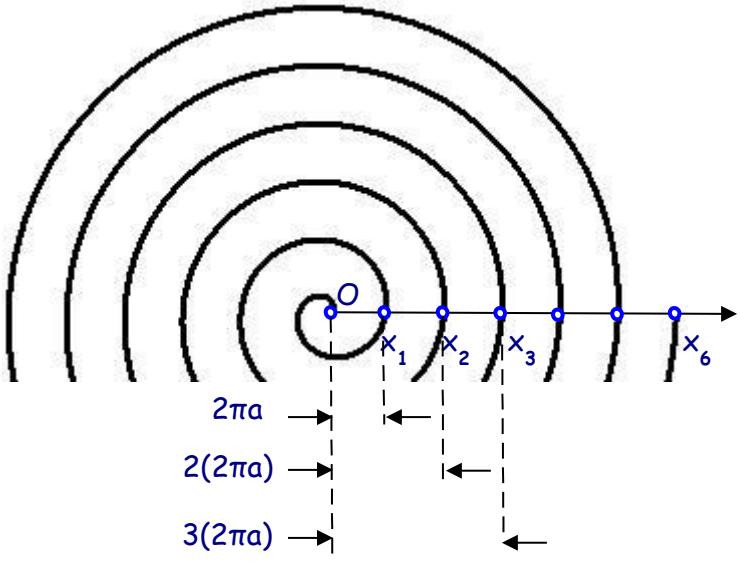


Fig. 10.18. The Archimedean spiral with equation (10.38)

The lower part of the spiral is cut off for the compactness of the pattern. The direction of twist this spiral corresponds to the type (Fig.10.1.a); if the angle is counted clockwise, then the direction of untwisting of the spiral will change to the opposite (Fig.10.1.b).

Another type of spiral, often found in nature, is logarithmic. Its equation has the form

$$r(\theta) = a \cdot e^{b\cdot\theta}, \ (a, b > 0), \tag{10.40}$$

where a and b are some constants.

This spiral starts not at the origin, but at a point with coordinates $(a, 0)$, i.e. $r = a, \ \theta = 0$. The width of its tracks increases with distance from the centre (Figure 10.19), but already in geometric progression.

* On the possibility of choosing a logarithmic spiral with a reasonable track width

It was said above that the spiral represents a model of the nonlinear course of Time, in terms of its acceleration or deceleration. To enhance this effect in the Portal, it is natural to choose a logarithmic spiral, the turns of which are untwisted with acceleration. To this end, we consider whether it is possible to set parameters a and b in equation (10.40) so as to satisfy the following requirements within 6 turns:

(*C1*), the width of the track on 6 turns increases by no more than with a factor of p. If for definiteness of the analysis it is assumed that the permissible increase in width is *10*%, then $p = 1.1$;

(*C2*), the radius of the region within the first turn is, in order of magnitude, correlated with the width of the track on subsequent turns;

(*C3*) From the considerations of passability of the track, assume that the distance between the first and second turns makes L = 40 cm. Practically, it includes both the width of the walkway itself (~ 25-30 cm) and the transverse width of the stone (~10-15 cm); much smaller or greater width does not occur in artefacts. At this stage we do not consider the width of the stones.

For the spiral (10.40), the initial point of the turn with the number i denote x_i ($i = 1, 2, \ldots, 7$) and set that $k = e^{b\cdot 2\pi}$. Then distances of the initial points of the turns (Fig. 10.19) from the origin make

$$\begin{aligned} x_1 &= a \cdot e^{b\cdot 0} = a, \\ x_2 &= a \cdot e^{b\cdot 2\pi} = ak, \\ x_3 &= a \cdot e^{b\cdot 2\pi\cdot 2} = ak^2 \\ &\cdots \\ x_7 &= a \cdot e^{b\cdot 2\pi\cdot 6} = ak^6, \end{aligned} \tag{10.41}$$

where x_1 – is the initial point of the logarithmic spiral, spaced a distance a from the origin, and x_7 is the end of the 6th turn.

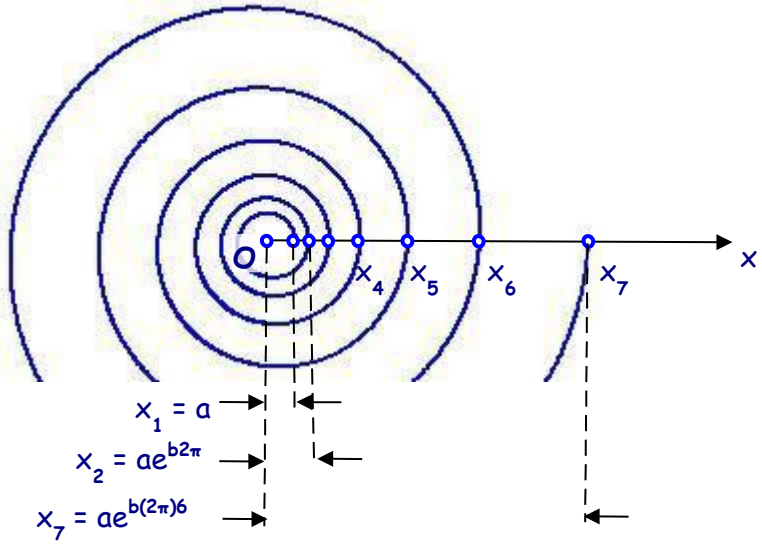


Fig. 10.19. The logarithmic spiral with the equation (10.40)
(The lower part of the spiral is cut off for compactness of the pattern)

In this case, the width Δ_i of the track with the number i at the end of this turn is as follows

$$\Delta_1 = x_2 - x_1 = a(k-1), \tag{10.42}$$

$$\Delta_2 = x_3 - x_2 = a(k-1)k,$$

$$\dots$$

$$\Delta_6 = x_7 - x_6 = a(k-1)k^5.$$

To satisfy condition C1 it is required that

$$\Delta_1 \times p = \Delta_6,$$

or

$$a(k-1)\times p = a(k-1)\times k^5$$

whence

$$k = \sqrt[5]{p} \approx 1.019245. \tag{10.43}$$

Further, it follows from the condition C3 that $\Delta_1 = L$; then, by allowing for (10.42) and (10.43), we obtain

$$a(k-1) = L,$$

and then

$$a = \frac{L}{k-1} = 0.4 \times 51.96 \approx 21 \text{ (м)}. \tag{10.44}$$

Thus, with a moderate increase in the width of the track and its reasonable width, the origin of the spiral (point x_1) is approximately 21 m distant from the origin, which is absolutely inadmissible.

On the other hand, if we fix the value of the parameter a and demand that condition C1 be satisfied, then the width of the track would become unacceptably narrow for passage.

Thus, from the point of view of practical requirements, the use of a purely logarithmic spiral for the model of a labyrinth with 6 turns is unacceptable.

* Model of the spiral for the labyrinth

To preserve the merits of equations (10.38), (10.40), a function

$$f(\theta), \tag{10.45}$$

has been proposed, which also defines the spiral equation as a dependence of the radius on the polar angle, but so that it satisfies the requirements C1 – C3 and specifies the metric and metrological parameters of the spiral using:

– numbers 2, 7, π and a power series Φ^i of the Golden Section number, which determines the typical periods in Nature and society, and

– Ancient Egyptian measures (royal and standard cubits), which, remind, through these same constants are commensurable with Old Russian and megalithic measures {→ 2.1.6, 5}, and also found in integer dimensions of prehistoric stone labyrinths and circles of Britain and Northern Russia.

In this respect, the model of the considered labyrinth is analytically consonant with prehistoric stone artefacts, in particular – with the Great Pyramid in Giza.

10. 9. Representation of the analytical model of the spiral in the masonry of the labyrinth

10.9.1. On formulation of the problem of approximation of the spiral by masonry

With a certain accuracy we can plot the graph of the spiral function (10.45) on the surface of the earth. But finally, the question is to represent this graph with masonry, and in this respect the question arises as to how accurately the resulting construction will reflect the original function. To answer this question, it is necessary to evaluate the form of the materials used and the method of installing the stones in the conditions of using the method of horizontal construction {→ 10.6.1}.

In the case of laying a brick, tile or other rectangular material with a smooth facets, in order to achieve the required precision, it is sufficient to rely on the use of the cord and the eye of the mason. A more complicated situation arises in the case of a figured masonry, but in this case also materials of the same type are used, and for marking – the regular templates are used.

In our case, the materials have different shapes and sizes, and along its entire length the spiral has a different curvature, which practically excludes the use of local templates. Therefore, depending on how we will install the stones, even following the marking, the accuracy with which the resulting masonry will transmit the shape of the given spiral will depend.

A question may arise as to how important this is. We cannot give an esoterically exact answer to it, but we believe that if the corresponding artefacts were constructed from unprocessed stones so, that their envelopes followed with certain precision certain model shapes, then there were good reasons for this.

Thus, before talking about the rule of setting stones, one should at least in general outline their shape and dimensions, as well as determine what template it makes sense to use for installing stones.

* The texture of the stones used and the rule of their orientation when installing

For the construction of the labyrinth, not boulders were used, but untreated granite stones from the stone quarry intended for building, with sizes varying from 20 to 40 cm; for the subsequent consideration assume that on the average the maximal size is

$$K = 30 \text{ cm}. \tag{10.46}$$

The shape of these stones is formed by the natural crushing of the rock, and therefore it is individual; but it is practically important that on the surface of most of the stones that were selected for the construction of the labyrinth there is a fairly large facet that can be considered flat with a given accuracy; for definiteness, call it the working facet; its linear dimension in the projection onto the horizontal plane is also taken equal to (10.46).

Accordingly, the stones are placed so that they touch each other, and their facets are located perpendicular to the ground and towards the centre of the labyrinth.

As a result, all these working facets (but not opposite to them) in aggregate form the semblance of a vertical straight cylinder, named above the "crystal mirror" (Fig. 10.4), the horizontal section of which represents the polygonal line, approximating the given spiral.

→ So, the problem of representing a mathematical spiral $f(\omega)$ of (10.45) by stones of this type as a whole can be considered as a problem of polygonal approximation of a curve $f(\omega)$ by segments representing the projections of the working facets on a horizontal plane. However, this problem ***cannot be considered*** purely mathematical for two main reasons.

Firstly, all the stones are individual in shape, and their working facets are different from the plane both on the whole (being convex, concave or wavy), and locally – due to the presence of more or less extended protrusions. All these deviations from the plane can be estimated by a quantity that is at least 1 cm in order of magnitude and determines the inaccuracy of the representation of these facets on the horizontal plane by segments. But to make the calculations, put that this error is half the value, = 0.5 cm, and then take this into account for showing how the heterogeneity of the working facets simplifies the installation of the stones with respect to the marking.

In addition, before setting the stone, its orientation relative to the spiral line is unknown, and since these facets in general have the form of irregular polygons, the length of the segment into which this facet is projected onto the horizontal plane is also unknown. Besides, the choice of an acceptable orientation of such a facet depends on the shape of the stone being installed before it.

Secondly, installing a stone in a position when its largest flat facet resides in the vertical plane, makes it unstable. Therefore, unlike the use of boulders (not forming any "mirror"), for preventing the stones from tipping over and imparting the construction the strength, it is required to lay cement mortar with gravel under the stones, and to install the adjacent stones so that they not simply touch each other, but overlap for better bonding (Fig. 10.4).

For these reasons, the stones should be installed sequentially, for convenience's sake – starting from the centre of the labyrinth, and each one should be selected according to individual characteristics, in order to co-ordinate its bonding with the preceding stone, and sometimes – with the potential subsequent one.

Under these conditions, it is impossible to obtain an a priori description of the sizes of projections of working facets with a reasonable accuracy, and therefore it makes sense to consider not the problem of polygonal approximation of the whole spiral, but the problem of approximating the spiral fragment by a segment whose physical analogue is the projection of the working facet of a stone of suitable size.

→ In practical terms, the solution to this presumes the following.

First, it is necessary to formulate a rule, simple enough for practical application, which determines how to install the current stone with respect to the mathematical principle of optimal approximation of the free part of the given spiral by a segment.

Second, it is necessary to propose a method for marking a spiral on the surface of the earth, which, without being excessively laborious and not hindering the performance of construction work, would ensure the required accuracy in the installation of stones. It's about that the construction of a template representing the whole spiral on the surface of the earth, on the one hand, is a very laborious procedure, and on the other hand, this template would interfere with the construction process, since all the building works would have to be performed on the marked, but not yet built area. Therefore, it is desirable that the technique of marking the spiral has an iterative character consistent with the process of installing the stones.

To meet these requirements, a technique is proposed that involves the marking the spiral turns one at a time, with the use of temporary local markers (for this turn), the distance between which is coordinated with the typical size of the working facet of the stones used; these local markers are used to install the stones of just the current turn.

The positions of these local markers are specified by the distance from the centre along the azimuths (as the function $f(\theta)$ defines the radius by the angle θ). At this, the distances are measured with the ruler, from the centre, while the local azimuths are obtained with the use of the permanent markers located outside the construction area.

As a result, the method of solving of two indissolubly united problems of marking the spiral and building it is reduced to the sequential installing the stones with the use of local markers, according to the rule, described below, the essence of which reflects the principle of optimal approximation of the spiral by segments of variable length.

10.9.2. Approximating the spiral by a dichotomous system of polar markers

The mathematical grounding of the rule determining how the stones are to be installed according to markers, is considered in the next subsection. Before this, consider the principle of arrangement of the system of markers, defining the angles and radii in the polar coordinate system in which the equation $f(\theta)$ of the spiral defined, and the method of their installation on the terrain.

* Dichotomous system of polar markers

According to the principle of use, markers, as the landmarks, ***are divided into*** two classes:

* Permanent markers are located along a circle drawn around the outer bound of the labyrinth under construction, the centre of which coincides with the centre of the labyrinth. When marking all the turns of

the spiral (for example, by means of a cord or ruler fixed in the centre), they are used as direction pointers, defining the proper angles A_i ($i = 1, 2, \ldots, n$) in the given polar coordinate system, that ***may take*** the values ***from*** 0° ***to*** 360°. Their position remains unchanged, as they are used until the construction of the entire labyrinth

Notice that with respect to the centre of the labyrinth the same marker defines both the angle of its azimuth (geographical, or astronomical), and its proper polar angle. However, one should distinguish between their values, since for the latter one the angle 0^o corresponds to the East; nevertheless, it uniquely specify the azimuth, and vice versa, since these angles are shifted by 90^o. Therefore, the same marker can be associated with the either type of these angles, according to the context.

* Temporary markers define (as described below) the line of the current spiral turn; they are placed to install the stones of this turn, and then – they are removed. Markers of this type belong to one of the following two groups.

Duplicate markers: the azimuth of each of them coincides with the azimuth of one of the permanent markers that was used to install it. However, these markers may duplicate not all the permanent markers, but only those which, for reasons of accuracy, are sufficient for marking the current turn of the spiral. For example, for the first turns, there is no need to use all the angles specified, and therefore the number of temporary markers may be less than the number of permanent ones.

Local markers. Conversely, when marking the middle and outer turns, the length of which is noticeably increasing, more azimuth markers are required. In principle, if the number of permanent markers is large enough, the local markers can be obtained with the permanent ones. But for small angles and distances, it may be more convenient to install a local marker between the neighbouring duplicate ones; in this case, the searched azimuth represents the bisector of the angle determined by these adjacent markers, which can be constructed with sufficient accuracy by means of a ruler and/or a pair of compasses, as described below.

Installing a temporary marker is carried out so that at the proper angle $A_i \in [0°, 360°]$ of this marker its distance from the centre is equal to the value $f(\theta_{n,i})$ of the function (10.45) for the full angle

$$\theta_{n,i} = A_n + 360° \cdot (i - 1), \tag{10.47}$$

which, in contrast to the proper angle A_n, takes into account not only the direction (or azimuth), but also the number i of the turn, which is essential for adequate specifying the radius of the spiral at this turn.

* Dichotomous installation of the markers.

Practically, for a permanent markers it is convenient to use a relatively high metal landmarks, for example – a *1* m reinforcement bars, since they are used for stretching a rope and tape-line for accurate marking out the turns, whereas for a temporary marker – a relatively short (*15 – 20* cm) wooden peg or large nail, since it is used merely for installing a stone.

At this, the proper angles A_1, A_2, …. A_n of the permanent markers are conveniently to set up so that the angles α_n between them be equal

$$\alpha_n = 360° / n, \tag{10.48}$$

and the number of these angles be determined as follows

$$n = 2^k, (k > 1), \tag{10.49}$$

where k – is the order of the partition, which is defined according to the required accuracy of approximation of the spiral.

In absence of a theodolite, this principle of marking the polar angles provides a simplicity and accuracy of constructing them on the terrain by sequential dividing the angles between the pairs of already constructed ones (of order k) into two; together with the angles of the order k, the k azimuths obtained this way give the

series of $2k$ angles of order $(k + 1)$. At this, the iterative application of this procedure gives the series of angles of the required order without use of a low-precision protractor and accumulation of error.

In the first stage, the first two markers are defined by the NS-line {→ 10.4, 10.10}, which, with the highest allowable accuracy, specifies the North-South axis, and thus the directions to the North and South. In this case $n = 2$ and $\alpha_n = 180°$, and the markers ***define*** the angles 90° and 270°.

> Remind, that *in the polar coordinate system*, in which the equation of the spiral is defined, these two markers ***specify*** not the azimuths, but the angles 90º and 270º, since in this system East is corresponded by 0º, North – by 90º, etc. (See Figs. 10.5.a, 10.18).

In the second stage ($k = 2$), having constructed two bisectrixes, we ***get*** two more angles, 0° and 180° (and also the azimuths giving the direction to East and West, resp.). In total, we obtain $n = 2^k = 4$ angles.

In the third stage we construct the bisectors for the angles between the available 4 markers. In total, this yields $2^3 = 8$ angles, spaced by the angle $\alpha_8 = 45°$, pointing to E, N-E, N, N-W, W, S-W, S, and S-E.

Acting in a similar way, we can construct polar angles of any order, but we restrict the consideration to the angular step of $\alpha_n = 5.625°$, which corresponds to $n = 64$ proper angles of the order $k = 6$. As shown below, for the considered dimensions of the spiral no greater accuracy is required, and on some turns even this number of azimuths is redundant.

* Geometric constructions on the terrain using a ruler and compass

When approximating the spiral with the system of polar markers, we proceed from the premise that all the above geometric constructions can be carried out with the ruler and compass, that is with the instruments known from the prehistoric times, except that the radii $f(\theta_i)$ for the angles θ_i б indicated by the temporary markers, we consider to be known; they can easily be calculated on a computer and reduced to a table, the rows and columns of which correspond to the turns and angles; then, when installing the temporary markers, these distances should be measured from the centre at the appropriate azimuth.

> Note. When building the artefacts, analogues of such tables could also exist. In any case, it is established that complicated geometric forms satisfying non-trivial algebraic properties were constructed on a systematic basis {→5}, and they show even the integer approximation of elliptic integrals [14].
>
> As for the Archimedean spiral, neither calculations nor markers are required for plotting it on the ground, if using a rope wound on a pole: if it is untwisted adequately {→ 5}, the end of the rope outlines the Archimedean spiral with a pitch equal to the circumference of the pole.

In particular, in the below constructions the use of only the following two instruments is presumed.

* Ruler – any tool that can be used for plotting a straight line on the ground and/or for measuring the length of a segment; in particular, a cord or a rigid rack. To measure the length, a tape-line (as an analogue of a cord with points) or a measuring rod can be used.

* Compass – a kind of a ruler: a cord or a rod, one end of which is fixed, and the other can move freely in the horizontal plane. At this, a spread of the compass can be fixed with a mark on the cord or by measure on the ruler.

> Note. During the construction of the labyrinth, both of these options were used. For larger distances, the metal cord was used for conducting straight lines (mainly for laying the azimuth lines passing through the centre to obtain permanent markers), and as a compass (for constructing a reference circle and bisectors for large angles - Fig. 10.20).
>
> For smaller distances (up to 3 m), a regular ruler was used, as well as a specially made measuring rod, one end of which is hinged in the centre, and the second rests on the wheel; It was used for measuring the distance $r = f(\theta_{n,i})$ from the centre when setting the temporary markers at the given angle $\theta_{n,i}$.
>
> With the use of these tools, landmarks and pegs (for fixing the points), all the geometric constructions, required to be performed for establishing the position of markers of both types, were realized.

Therefore, the technology of their application is not specially considered; as an example, we show two methods for constructing a bisector for the central angle determined by the polar angles A_i and A_{i+1}.

* Method of the compass. Let A_i and A_{i+1} be the markers corresponding to the given polar angles, which lie on the circle O with the centre at the point $\boldsymbol{O}$ (Fig. 10.20.a) and arbitrary radius $\boldsymbol{R}$. From these points, as from centres, draw the circles O_1 and O_2 of equal radii $\boldsymbol{r}$ to their intersection at the point M.

The straight line OM is the required bisector.

In particular, if it is a question of obtaining the next series of markers in the sense of (10. 49), then it is the intersection of this line with the circle O which defines the position A' for the marker of the next order.

* The method of the ruler. Let C and B be two markers: temporary, as shown in Fig. 10.20.b, or permanent, which lie on some circle O with centre at the point $\boldsymbol{O}$; in fact, it is important only that each of them is $\boldsymbol{R'}$ distant from the centre. By the ruler, find the midpoint of the segment CB – the point M. The line OM represents the searched bisector.

Note that when marking the spiral, the distance to marker C is greater than to marker B; but since they are known, as well as the directions OC and OB, when implementing this method, it is sufficient to shift the point C closer to the centre by the corresponding value.

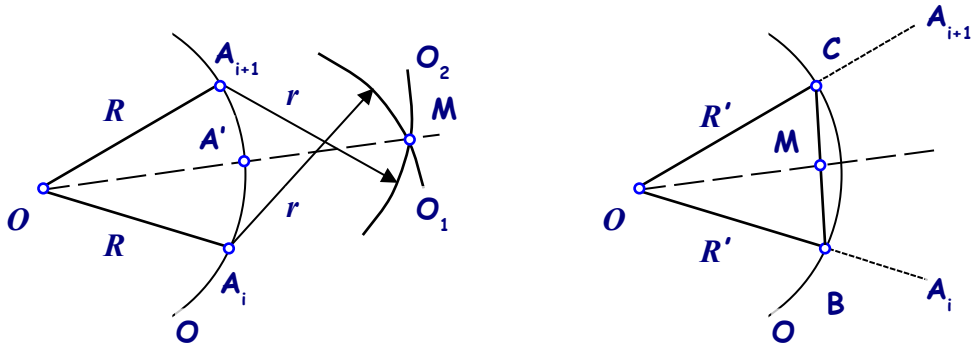


Fig. 10.20. The construction of a bisector by the compass (a) and the ruler (b) methods

Note also that the accuracy of these constructions is essentially determined only by the thickness of the pegs used for markers and intermediate points. Since the planeness of the stone facets is determined by a error Δ_* not less than *0.5* cm, and often *1* cm, the accuracy of the constructions will be sufficient if the thickness of the markers does not exceed *0.5* cm.

As such pegs one can use long nails or sharpened at one end wooden rods; one do not need them in plenty, since it suffices to set up the temporary markers just for a group of several stones to be installed, and not for the whole turn, and even more so – for turns, which would create significant hindrances for construction work.

Note. As shown below, for practical reasons, 64 markers of the series $k = 6$ can be omitted. Since *32* markers of the series $k = 5$ are used only in outer turns, they can be set up not as the permanent ones, but with the method of the ruler, by using the markers of the series $k = 4$. Practically without loss of accuracy, this allows to reduce the number of permanent markers to *16*, and hence the laboriousness of auxiliary constructions.

In this case, the coordinates of the temporary markers, defined by radii $R_{i,j} = f(\theta_{i,j})$ and angles $\theta_{i,j} = A_i + 360°(j-1)$, where i is the angle number ($i = 1, 2, ..., 16$), and j is the turn number ($j = 1, 2, ..., 6$), it is easy to tabulate for use when installing the markers.

10.9.3. Approximation of fragment of the spiral by a segment

Suppose that at the spiral (10.45) two azimuths A_i, A_{i+1} are identified on the turn with the number m, which intersect the spiral at the points E and C (Fig. 10.21). It is required to find the position of the segment between these azimuths, which has a minimum deviation from the arc $\cup EC$.

Remind that on this turn the argument of the function $f(\theta)$ takes the value $\theta = 360° \cdot (m-1) + \omega$, where the angle ω lies in the range from $0°$ to $360°$.

Without loss of generality, assume the azimuth A_i to be directed along the axis Ox, and denote $\angle A_i O A_{i+1} = \alpha$.

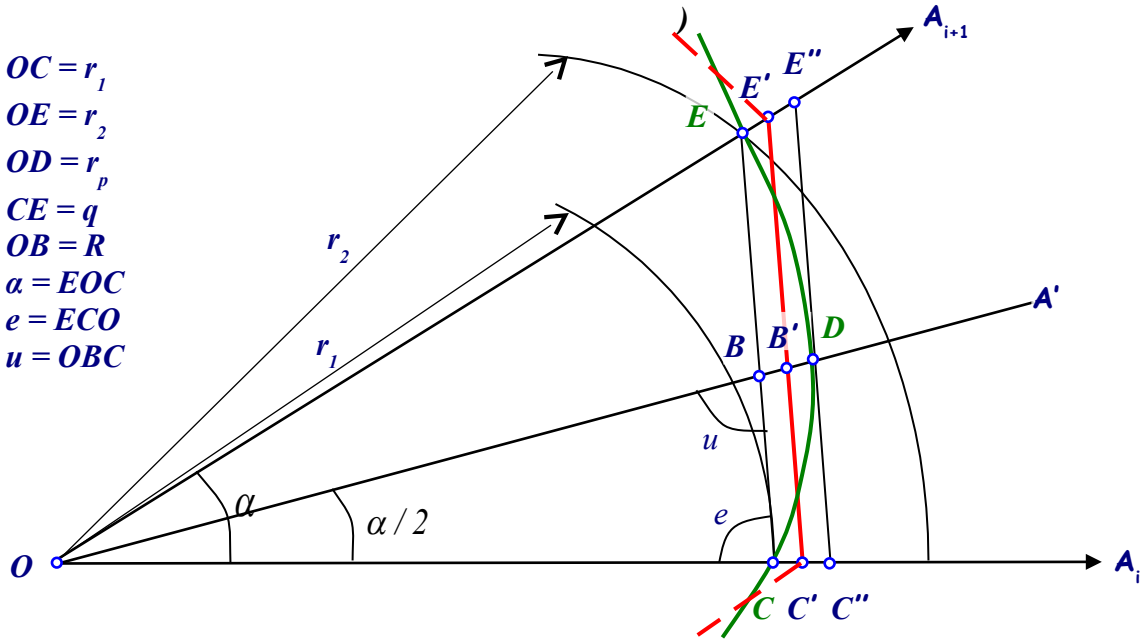


Fig. 10.21. A quasi-optimal position of the segment approximating the fragment of the spiral

Angle α between the azimuths A_i and A_{i+1} increased for clarity of the drawing; also and the radius r_2 in a typical situation only slightly exceeds the value r_1.

The red line is the projection of the working facet of the stone between the azimuths A_i and A_{i+1}. The dashed lines represent the projections of the working facets of adjacent stones.

From the mathematical point of view, in order to talk about approximation, it is necessary to set a measure of the difference between the approximant (in this case - the segment) and the initial curve. In this respect, we consider the Tchebyshev approximation, which presumes minimizing the maximal deviation. It is shown below that this solution with a negligible error corresponds to minimization with the root-mean-square criterion.

Note to this end, that the positions of the projections of the working facets on the segments EC and *E″C″* are clearly not optimal, since the error of approximation in this case reaches a twice greater value equal to the length of the segment *BD*, than the error for an intermediate segment *E′C′*.

At the same time, it should be borne in mind that the error Δ_* in approximating the facets by a plane is commensurable with an error that in the considered problem characterizes the initial approximations (the positions of segments *EC* and *E″C″*), and also that the error of this procedure is much less than Δ_*, even though the solution of such a problem is eventually realized by eye.

Therefore, in what follows we are talking about the search for not a mathematically exact solution of the stated problem, but for a close to it (quasi-optimal) position of the segment, which is easy to identify when installing the stones.

Let *E* and *C* be the points of intersection of the spiral $f(\theta)$ with the azimuth rays A_i and A_{i+1}, and *OA′* be the bisectrix of the angle $A_i O A_{i+1}$, which intersects the spiral and segment *EC* in the points *D* and *B*.

Firstly, find the distances $R = OB$ and $\Delta_R = BD$.

By the cosine formula, from the triangle *OEC* we get

$$q^2 = r_1^2 + r_2^2 - 2r_2 r_2 \cos\alpha ,$$

whereas according to the sine formula we obtain

$$\frac{q}{\sin\alpha} = \frac{r_2}{\sin e}$$

whence

$$e = arc\sin\left(\frac{r_2}{q}\sin\alpha\right). \qquad (10.50)$$

For the triangle *OBC* we have

$$u = 180° - \frac{\alpha}{2} - e$$

and

$$\frac{R}{\sin e} = \frac{r_1}{\sin u},$$

whence

$$R = \frac{\sin e}{\sin u} \times r_1 \qquad (10.51)$$

and

$$\Delta_R = f(\theta_D) - R = f[360° \cdot (m-1) + \alpha/2] - \frac{\sin e}{\sin u} \times r_1, \qquad (10.52)$$

where the angle α is determined by the order *k* of the dichotomy

$$\alpha = \alpha_k = A_{i+1} - A_i = \frac{360°}{2^k}. \qquad (10.53)$$

* Discussion

→ As a result, taking into account the smallness of variation of radius between the closely spaced (by 5° – 11°) azimuths A_i and A_{i+1}, the arc $\cup CD$ can be considered close to a circle; in this case the quasi-optimal segment C′E′, which defines the projection of the working facet for the stone to be installed, ***must be*** parallel ***to*** the segment CE and ***pass through*** the point B′ – the middle of the segment BD.

Even in the absence of a marker *D*, the practical finding of this point is not difficult: since the length of the chord *EC* does not exceed tens of cm, the position of point *B* is determined by the ruler as the middle

of this chord, and the displacement value BB' can be tabulated together with the values of the radii of the markers of the series A_i, A_{i+1}, … .

→ If the root-mean-square criterion is used, the position of the optimal segment will be different; it is determined by a complicated transcendental expression, the exact solution of which is both difficult for practical application, and of no special meaning. Calculations for the azimuth angles of 11.25^o and 5.625^o show that ***for*** the root-mean-square criterion ***the same*** segment C'E' ***is*** also optimal with an error of *7% - 10%* of length of the segment *BD*, being negligible, since it does not exceed 1 mm.

Notice also that the radius *OD* is almost exactly equal to the arithmetic average of the radii *OE* and *OC*.

→ Calculation of the value $\Delta_R = BD$ for different combinations of the turn number j and angle α shows the following.

When using *64* azimuths of the series $\alpha_6 = 5.625$ °, the correction $BB' = \Delta_R/2$ can be neglected, since it would not exceed *2* mm. This simplifies the masonry, although setting such a large number of markers is quite troublesome.

When using only *32* azimuths of the series $\alpha_5 = 11.25^o$, the correction $BB' = \Delta_R/2$ exceeds the permissible error of *0.5* cm only on the last two turns, and with an allowable error of *1* cm, describing a non-planeness of the working facets, it can also be neglected, except at the last turn.

Thus, with the agreed accuracy of the working facets of the stones and the location of their installation, determined by an error of *1* cm, for the markers it is sufficient to use only *32* azimuths of the series $\alpha_5 = 11.25°$. And it is not necessary that they all be permanent: to simplify marking, for the permanent markers one may use only *16* azimuths of the series $\alpha_4 = 22.5^o$, and in the required cases (on the outer turns) – to install the markers of the series $\alpha_5 = 11.25^o$, as described above, as temporary ones.

→ In the considered mathematical models it was assumed that the length of the working facet of the stones should be equal to the distance *C'E'*. However, in practice this situation is more likely to be an exception than the rule.

At the same time, in terms of adaptation of the proposed rule to practical application, one should not discard the mason's eye, which is capable of tracing a smooth curve along the closely located pegs. In this respect, he should be explained the rule of installing the stone according to Fig. 10.21.

10.10. Determination of the position of the NS-line

In this section we consider how the position of the first two markers, determining the North-South line, can be found. With the required accuracy this line can be found without using a watch, for example – with gnomon, or by finding the bisector (Fig. 10.20) of the azimuths of sunrises and sunsets, with subsequent averaging the obtained directions. However, with the aim to simplify this procedure for those who would like to carry out the marking for such a construction, show how this task can be solved with the use of a clock and gnomon.

The initial two azimuths that determine the binding of the labyrinth to the geographical directions are given by the NS-line, which the Sun, at the moment of culmination, passes at the true astronomical noon for the given place. At this moment, the shadow from the gnomon points exactly to the North. However, the time T_A of this moment, tracked by the clock, in general does not coincide with the noon of the civil time.

Thus, if the gnomon is placed in the point representing the centre of the future labyrinth, then at the time T_A its shadow on the earth's surface points to the North; as the result, these two points – the centre and the tip of the shadow, determine the NS-line, at the continuation of which (beyond the periphery of the future construction) the first two permanent markers, denoting North and South, should be installed. After that, with the help of a theodolite or the geometrical method described above, one can get the rest of the permanent markers of the required order.

Consider, how to obtain the time T_A and to estimate the accuracy of identification of the NS-line, obtained this way, on the example of the considered labyrinth. Notice, that the considered units of time are described in Chap. 2 {→ 2.1.1.3}

* Determining the moment T_L of the true astronomical noon for the site of labyrinth

For the site of the labyrinth, the civil time T (viz. the time T on the clock) ***is*** the time T_{+2} of Zone +2, which advances the GMT by $N = 2$ hours, and therefore ***reflects*** the apparent (or true) solar time, ***but*** just at the meridian $\lambda_N = 30°$ E; reflects in the sense that T is the *mean* solar time which, in general, does not coincide with the *true* solar time T_S even at the meridian λ_N, although close to it. The relation between the values T and T_S is defined by the equation of time.

* The equation of time {→ 2.1.1.3.5} ***describes*** the discrepancy ***between*** the apparent (or true) solar time, which directly tracks the motion of the Sun, and mean solar time, which tracks a theoretical "mean" Sun with noons 24 hours apart, and for any fixed day D its value η_D is applicable for any meridian.

The definition {→ (2.30)} of the equation of time η is as follows

$$\eta_D = t_{True} - t_{Mean} \text{ (min)} \tag{2.54}$$

where

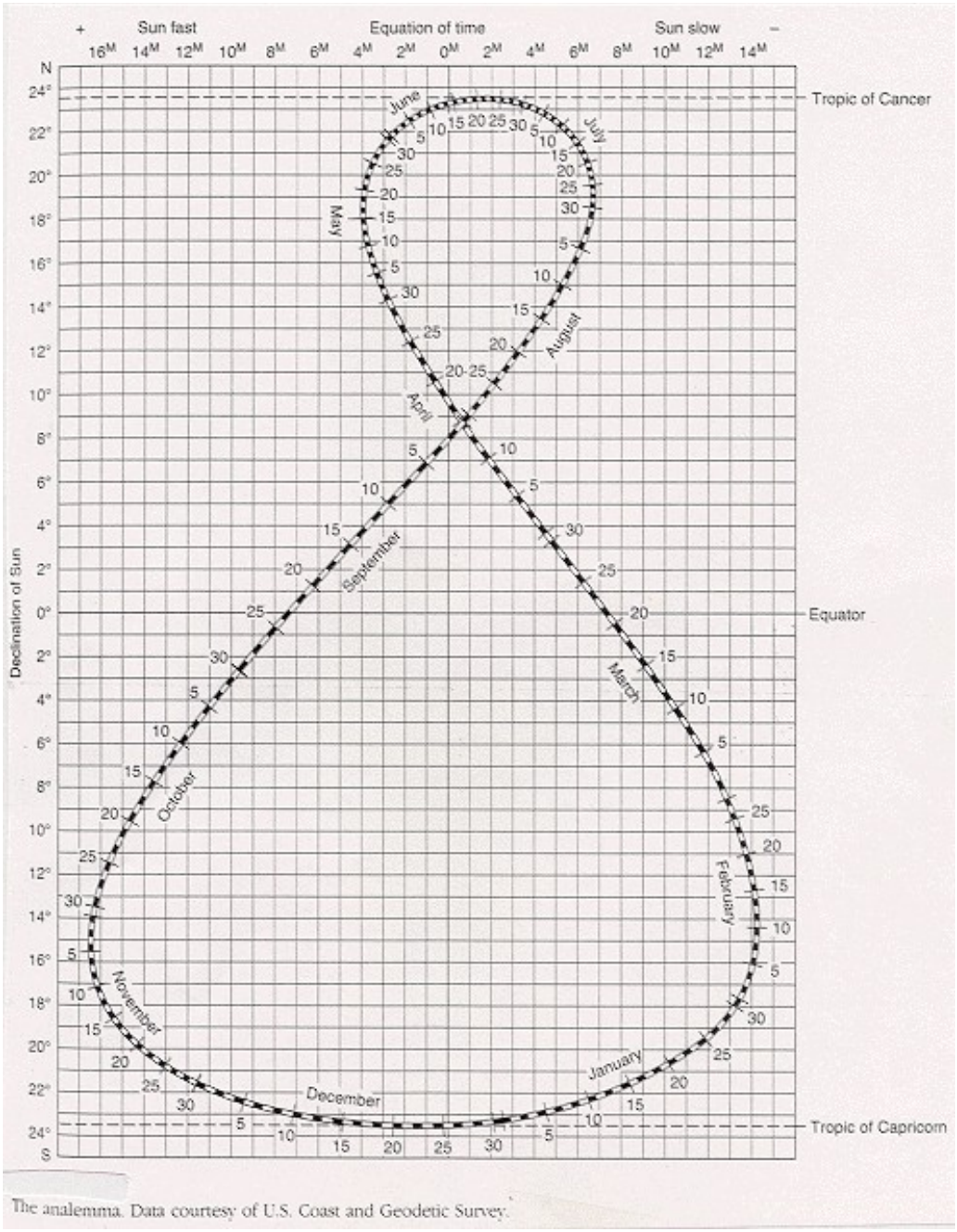
t_{True} – is the apparent solar time, and

t_{Mean} – is the mean solar time.

It may be obtained from a published table, or a nomogram (Fig. 10.22); e.g. for July 16 this value makes

$$\eta_{Jul,16} = -6 \text{ min} \pm 6 \text{ sec} \tag{10.55}$$

Here the uncertainty of ± 6 s is determined by the error in the choice of the value by the nomogram.



The analemma. Data courtesy of U.S. Coast and Geodetic Survey.

Fig. 10.22. Analemma

Thus, if astronomical accuracy is not required (for example – while marking a stone structure, when it is required to find the direction to true North with the use of gnomon on true noon), the equation may be used for defining the moment of true noon by the civil time. But one must remember that the civil time is defined for definite meridian, in this case – for $\lambda_N = 30^o$ E. Therefore, according to equation (2.54), the civil time t_{Mean} at the meridian λ_N of the zone +2, when the true noon (t_{True} = 12:00) takes place, is as follows

$$t_{Mean} = 12 \text{ h } 00 \text{ min} - \eta_D . \qquad (10.56)$$

For example, for D = July 16 the value η_D, obtained from nomogram, makes –6 min (10.55), and therefore at the meridian λ_N the true noon takes place at

$$t_{Mean} = 12 \text{ h } 00 \text{ min} - (-6 \text{ min}) = 12 \text{ h } 06 \text{ min}. \qquad (10.57)$$

* Summer time. Besides, in the period of marking the site of the future labyrinth, the summer time was in effect. This means that for the whole zone the civil time T' was 1 hour greater than the zone time T_{+2}, $T' = T_{+2} + 1h$. Hence, on July 16 the civil time t'_{Mean} of the noon at the meridian λ_N is as follows

$$t'_{Mean} = t_{Mean} + 1 \text{ h} = 13 \text{ h } 06 \text{ min}. \quad (10.58)$$

* True Solar time at the given meridian. Meanwhile, the true solar time is bound to meridian. That is why, for the site of the labyrinth with the longitude $\lambda_M = 36° 16'49'' = 36.28028°$, located to the East of meridian λ_N, the *true* local solar time exceeds the *true* solar time of meridian λ_N by the value

$$\Delta T = 24h \cdot \frac{\lambda_M - \lambda_N}{360°} = 24 \times \frac{6.28028}{360} h = 0.41869\ h = 25.12112\ min.$$

Hence, the Summer civil time T_L when on July 16 the true noon takes place at the meridian λ_M of the labyrinth takes place ΔT minutes earlier, than at the meridian λ_N, and makes

$$T_L = t'_{Mean} - \Delta T = 12\ h\ \ 40\ min\ \ 53 \pm 6\ sec\ . \quad (10.59)$$

* Construction of the North-South line with the gnomon

As a gnomon, a metal rod with a thickness l = 1 cm and a length L = 1.5 m installed in the vertical position was used, which was fixed in the centre of the future labyrinth. Later it was also used as a marker of the centre when installing the markers of the turns.

* The length of the gnomon's shadow. Firstly, find the altitude of the culminating Sun on July 16 – the day of defining the NS-line.

The ecliptic longitude of the Sun at this moment can be found by ephemeris; it is

$$\lambda_S = 23^o \text{ ♋ } 37.85' = 90^o + (23^o\ 37.85') = 113.631^o\ . \quad (10.60)$$

This longitude, according to (2.5), defines the declination of the Sun

$$\delta_S = arc\sin(\sin\lambda_S \times \sin\varepsilon) = 21.3709^o. \quad (10.61)$$

So, at noon the height of the Sun (as the angle above the horizon) at the given latitude $\varphi = 50.1911^o$ makes

$$h = 90^o - \varphi + \delta_S = 90^o - 50.1911^o + 21.3709^o = 61.1798^o \approx 61.18^o. \quad (10.62)$$

In this case the length of the shadow D from the gnomon equals to

$$D = L \cdot ctg\ h = 1.5 \times 0.5502 = 0.8253\ (m). \quad (10.63)$$

* Using the gnomon's shadow for determining the NS-line. The registration of the direction of the NS-line along the shadow itself is inexpedient in view of its relatively small length. To increase the accuracy of defining this direction, it was tracked by a $D_* = 3$ m long cord, one end of which was fixed at the rod. This cord was being held in the central region of the shadow, and its free end had been fixed at the moment of the true solar noon.

The motion of the gnomon shadow, although slow, is noticeable at the end of the cord. Therefore, in order to adjust to exact following of the shadow, its tracking began a few minutes before the true noon.

* Estimation of accuracy of detection of the NS-line. The angular velocity of motion of the shadow with sufficient accuracy can be estimated by a mean speed of rotation of Ecliptic relative to a meridian, which is about $1°$ in 4 minutes of time. Under these conditions, in *1* sec the shadow shifts by an angle

$$\alpha_{1s} = 0.25'. \tag{10.64}$$

Therefore, if the error in defining the true noon, which is determined by an uncertainty of the value of η_D in (10.55), makes approximately *6* s, then the error of the direction of the NS-line would be about

$$\Delta_A = \alpha_{1s} \times 6 = 1.5', \tag{10.65}$$

what in units of length for the end of the 3-meter cord makes

$$\Delta_{D^*} = \frac{2\pi \cdot D_*}{360^\circ} \times \frac{\Delta_A}{60} = 0.13 \text{ (cm)}, \tag{10.66}$$

that is the value, which in the considered situation is practically insignificant. Note that for the end of the gnomon's shadow this offset is 0.036 cm.

Hence, in the considered conditions the marking of the North-South direction, relative to the centre of the labyrinth, can be accomplished with an error of up to 0.1 cm at a distance of 3 m, that is, almost exactly, comparing with the error permissible for the installing the markers.

10.11. The golden section in the frequency spectrum of turns

* The Auric series and Fibonacci series. The basis of the Auric (from the Latin "Golden") spiral, or rather – the time scale [37] represents an infinite in both directions geometric progression $\Gamma = \{F^i\}_{i=-\infty,\infty}$ of the number of the Golden Section $F = 1.618\ldots$. The values of the elements of this series de facto determine the periods of an extremely wide range of natural phenomena – from planetary periods to the rhythms of the brain [Time as Periods], and from cycles of natural cataclysms – to social phenomena [Time as Periods, Evolutional Time]. The Golden Section also determines a series of basic features of the Labyrinth-temples {→ 2}, and therefore it has been chosen, as aforesaid, to represent the geometrical features of the considered labyrinth, in particular – the distance between the turns.

In this correlation of periods, the series $\Gamma_* = \{2 \cdot F^i\}_{i=-\infty,\infty}$ conjugate to Γ is almost as significant. At this, the values of both these series are closely related to the Fibonacci numbers of the base series *U* and the conjugate series *V*, which differ by the second initial term (Table 10.11), and the terms of the second series give an integer approximation for the terms of the series Γ .

Numerous properties of all these series, as well as the correlation of the series *U* and *V* with the number *F* of the Golden Section, are described in the specified references. In this case, in addition to the relevance of all these series to describing the phenomenon of Time, it is important to note that the Fibonacci numbers can be considered as an integral representation of base periods or frequencies, since for any period F^{-k} there is the frequency F^k, where k is a natural, and vice versa.

Table 10.11. The basic and conjugate Fibonacci series, and connection of the series V and Γ

Series	Terms of the series										
U	**1**	**1**	**2**	**3**	**5**	**8**	**13**	**21**	**34**	**55**	**89 …**
V	**1**	**3**	**4**	**7**	**11**	**18**	**29**	**47**	**76**	**123**	**199 …**
Γ	**1.618…**	**2.618…**	**4.236…**	**6.854…**	**11.090…**	**17.944…**	**29.034…**	**46.979…**	**76.013…**	**122.99…**	**199.005…**

* The distribution of the number of stones by turns is shown in Table 10.12. In each turn, beginning with the second one, the first stone was considered to be the first one, which lies entirely to the north of the Centre-East ray, which determines the coordinate axis of the mathematical spiral. Thus, the "error", or rather – an uncertainty of the number of stones in a turn, on average, is *1*.

Table 10.12. Number of stones in the labyrinth turns

Turn # i	Number of stones n_i	Normalized period $p_i = n_i / N$	Frequency $f_i = 1 / p_i$, rounded to integer	Term of the Fibonacci series
1	**7**	**0.0281 = (35.57)$^{-1}$**	**36 (34)**	**U9**
2	**19**	**0.0763 = (13.11)$^{-1}$**	**13**	**U7**
3	**30**	**0.0281 = (8.30)$^{-1}$**	**8**	**U6**
4	**46**	**0.1205 = (5.41)$^{-1}$**	**5**	**U5**
5	**64**	**0.2570 = (3.89)$^{-1}$**	**4**	**V3**
6	**83**	**0.3333 = (3.00)$^{-1}$**	**3**	**U4**
Sum total	N **= 249**			

Proceeding from the fact that on each turn the radius of the Archimedean spiral increases linearly, and the considered spiral differs slightly from it, it could be assumed that the number of stones in the turns increases approximately linearly. But this is not so, also because, as we approach the periphery of the labyrinth, the size of the stones, and their length, decreases.

On the contrary, it is interesting to note that with an average error of *4%* in the transition from turn to turn, the number of stones increases by a factor of 2, determined by the Golden Section or its powers: *2* or ½.

These considerations lead us to the following analogy.

* The frequency spectrum of the turns follows the Fibonacci series, and in this respect – ***represents*** the fragment of the Universal Auric Time Scale [37]. If the spiral is the physical aspect of the Portal associated with the effects of space and time, then the stone spiral itself can be likened to an antenna. In general, the periods of phenomena are associated with the wave lengths, whereas the frequencies – with the inverse values. From this point of view this antenna could be considered as tuned to a spectrum of waves whose length can be correlated with the number of stones as resonators.

Further on, in light of the interconnection of periods (defined by wave lengths) and frequencies (defined by inverse values) of phenomena, , it is all the more striking that with respect to the frequency, determined by this distribution, it very accurately follows the Fibonacci numbers.

Really, from Table 10.12 we see that the frequencies of the turns coincide with the terms of the series U and V, the only exception is the first turn, in which the value $f_1 = 36$ deviates from U9 = 34. However, this deviation could be neglected.

Indeed, the first turn presents the spiral in a special way; firstly, in order to increase the accuracy of the initial 180º-fragment of the spiral, this part of the spiral was engraved on the central stone (Fig. 10.4); secondly, the stones themselves on the first turn are the largest.

As well, this deviation of f_1 from U9 = 34 is numerically insignificant. Actually, given the uncertainty of the number of stones on one turn, the permissible deviation for the value n_1 is 6 or 8, which gives the frequencies 41.5 and 31.1, which differ from f_1 by 5 units, or by 14%, whereas the value of U9 = 34 differs only by 2 units, or by 5.6%. In other words, the deviation of frequency f_1 from the value U9 = 34 should be considered insignificant, since its difference from the value of 34 is 2.5 times less than the permissible error.

But for these numbers to be correlated within the framework of one system, it is natural to normalize them by the total number N of resonators. Thus, we obtain periods $p_i = n_i / N$, the reciprocals of which are the frequencies $f_i = 1 / p_i$ that, as it turned out, are described with high accuracy by the Fibonacci numbers running almost sequentially. adjust

* The Fibonacci spectrum of the labyrinth turns adjusts the considered Stone Portal to the Universal Auric Time and determines its individual occult sounding.

Indeed, the distribution of number of stones in the turns follows the Fibonacci series and thus – analytically related to the Auric Time Scale defining the basic periods in Nature and society, as well as the evolutionary time. And if the proposed analogy is correct, then this feature of the labyrinth should serve to strengthen the space-time and energy-informational properties of the Portal.

Besides, it should be noted that by observations of Sensitives and perceptions of ordinary operators, as well as for esoteric reasons, the Portal exerts the greater influence, the closer the turn is to the centre. As for stones themselves, the fewer of them in a turn, the larger the specific contribution of each of them to the turn's energy flow. From this point of view, the ratio

$$z_i = N / n_i , \tag{10.67}$$

one the one hand, formally determines the above frequency f_i, and on the other hand – presents a numerical indicator of the occult significancy of the stones of the turn with the number i, which reflects the contribution of this turn to the energy-information potential of the Portal on the whole.

From the above analogy and distribution of the stones by turns, it thus can be suggested that the frequencies f_i (or periods p_i) determine the individual "Golden Section sounding" of this specific Portal in the Space-Time of the Subtle Planes.