

The conical volume is a familiar form in the language of the desert. It becomes a point of reference in the endless procession of horizons. By creating conical volumes that are precise geometrical forms, their origin moves into the realm of the mysterious . . . the moment they are completed, they become an instrument to measure the passage of time.

D.A.ST

D.A.ST. consists of three artists, Danae Stratou, sculptor, Alexandra Stratou, industrial designer, and Stella Constantinides, architect. The group was formed in the spring of 1995 in order to collaborate on an installation in the desert. They envisioned a site-specific work on such a scale that it could only be fully experienced on foot. It takes 40 minutes to walk around the finished structure.

In June 1995, they went to Egypt in search of a suitable site. They settled upon a large expanse of desert six hours south of Cairo. It lies

For right An aerial view of the site-generated landscape project, Desert Breath, which is located near to the Red Sea in Egypt.

between the coast of the Red Sea and a ridge called the Eastern Mountains. Here, in an atmosphere of great excitement and enthusiasm, they reached an agreement about the concept for the project, Desert Breath.

When they returned to their homes on the Greek island of Paros, one of the windiest places in the Mediterranean, they spent the rest of the summer testing their concept using sand models and computer-generated sketches. In September their proposal was approved by Mr Samih Sawiris, the president of Orascom, a construction and development company based in Cairo. Sawiris and his enthusiasm proved to be fundamental to the eventual success of the project.



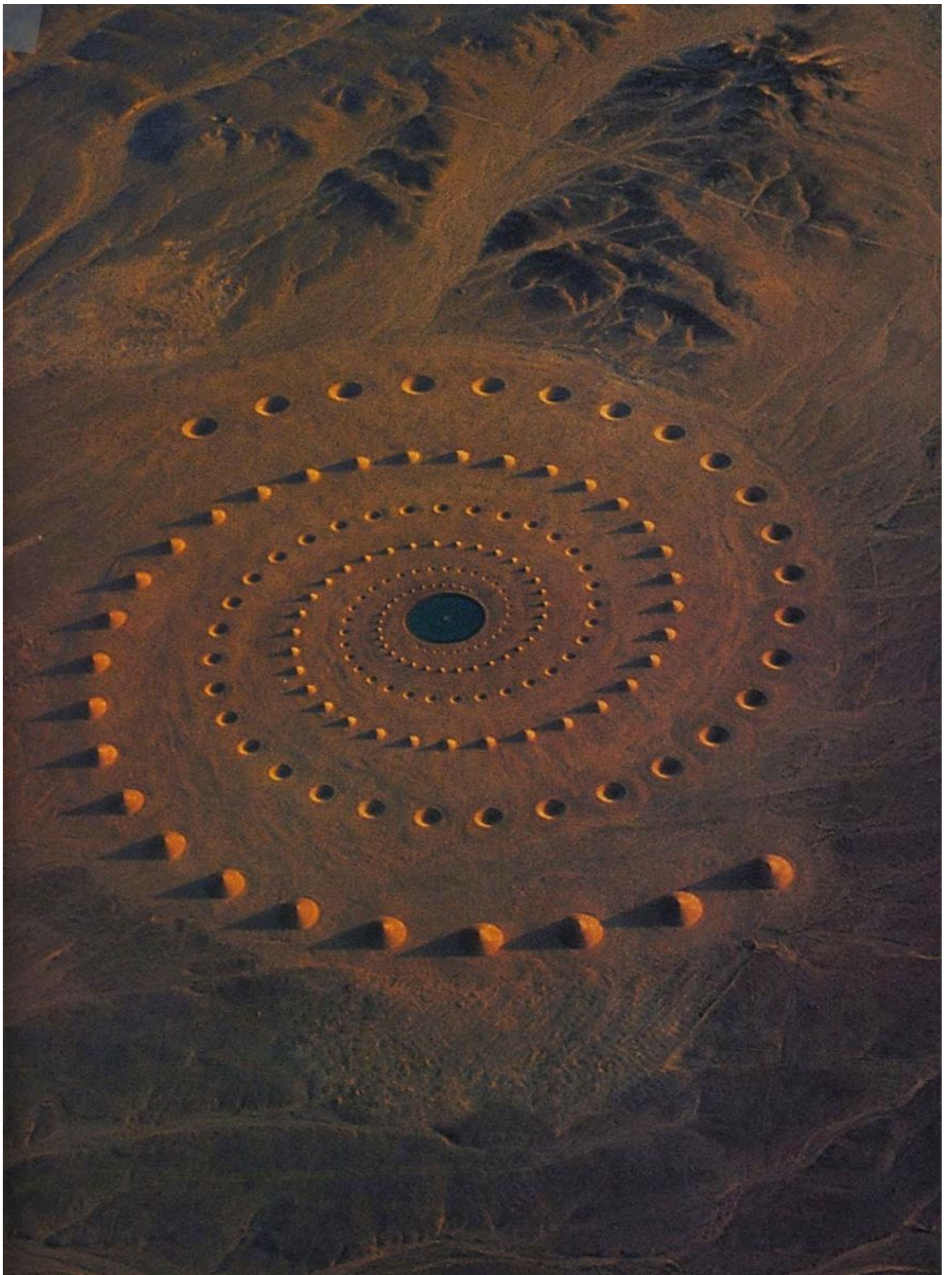
Until the September of 1996, D.A.ST worked with architects, engineers, mathematicians and geologists on final detailing. The team returned to the site several times to discuss exact site selection and construction methods.

The construction of Desert Breath began in June 1996 and was complete nine months later. The finished project covers an area of 100,000sq m (320,000sq ft) and has a total diameter of 450m (1,460ft), resulting in the displacement of 8,000 cu m (280,000cu ft) of sand. The two

D.A.ST. Art Team: Danae, Alexandra, Stella

Desert Breath, El Ghouna, Egypt

GARDEN STATISTICS	
Client:	Mr Samih Sawiris, Orascom Construction PTD, Cairo
Designer:	D.A.ST.
Area:	100,000sq m (1,076,426sq ft)
Climate:	Desert
Soil type:	Sand
Aspect:	West
Date of completion:	1997



interlocking, logarithmic spirals consist of 178 cones. They have a single centre with a phase difference of 180 degrees in the same direction of rotation. One spiral is made from 'positive' cones, rising above the desert grade. The other is made from 'negative' cones, which were excavated below the desert grade. The positive cones are formed from the sand which is displaced to make the negative ones. They range in height from 50cm to 4m (20in to 12ft).

The concept of the cone shapes was first inspired by piles of sand spoil which had resulted from road building in the area. D.A.ST. noticed that when the wind-blown sand collected at the feet of desert plants, it created a cone shape around the base. This natural combination of sand and wind inspired the team to create cone shapes themselves. Our interest in site-generated design makes this aspect of the project particularly exciting for us.

The correct compaction of the sand used to construct both the positive and negative cones was crucial. It was achieved through a combination of manual labour and earth-moving equipment. Initially, D.A.ST thought that the cones could be dug and compacted at random. However, it soon became clear that they had to be worked on as a series. The team give full credit to the skills of their digger driver,

Ahmed. His control of the machine was such that he was able to judge the correct depth of each negative cone by eye. In order to make the positive cones it was crucial to calculate the exact angle of deposition. This is the critical point of mass at which the sand falls away, and getting it wrong would ruin the cone shape.

Water is another major element of the design. The lack of water in the desert and a view of the Red Sea inspired the notion of a circular pool. It is a beaten-earth concavity with a diameter of 30m (100ft). The centre of the pool was filled with a giant cone calculated to have only its tip above the finished water level. When the pool is filled to the brim, the protruding cone becomes the central incident of the design and can be read as a small island on the horizon. It is the mathematical starting point of the double spiral cones.

It was crucial to D.A.ST that all of the elements should be finished at exactly the same time. They wanted the moment of completion to be time zero, before the forces of nature began their inevitable transformation.

Desert Breath represents an important moment for Land Art in the 1990s. As with the projects of the 1960s and 70s, documentation will be crucial. The

Below *The beginning of one of the two interlocking sand cone spirals inspired by the cones of sand deposited on the stems of indigenous plants by the action of the wind.*





Left While constructing the double spiral cones, the D.A.ST. team found that the positive and negative cones had to be dug in height and depth sequence: from the largest to the smallest.

team has returned frequently to the site over the past two years, using videos and photographs to record the gradual changes wrought on Desert Breath, the 'harmonic cohabitation of the precision of human geometry with that of nature.'

The choice of location was vital to the concept of this project. The desolate site meant that D.A.ST.'s 'marks' should remain undisturbed by humankind. They will be 'disturbed', however, by that most pervasive of natural elements of the desert, the wind. The mobility of the sand controlled by the wind will eventually change, if not obliterate, the cones. This is yet another perfect example of the universe's principle of construction and destruction.

Finally, the D.A.ST. Art Team should have the last words on their fantastic land creation:

The project is rooted in our common desire to work in the desert. The lack of objects in the surrounding area renders one unable to rely on customary means in order to determine scale, space, distance and orientation, so that these acquired senses have to be re-learned based on experience with earth (gravity), sky (motion), light (change), water (level). Simultaneously, one experiences a feeling of isolation and completeness. One can feel time go by yet provide no resistance. The vastness of the horizon becomes the only visual reference to equilibrium.

Below Walking the spiral pathway: The D.A.ST. Team has documented the inevitable changes to Desert Breath since its construction using photos and videos.

