



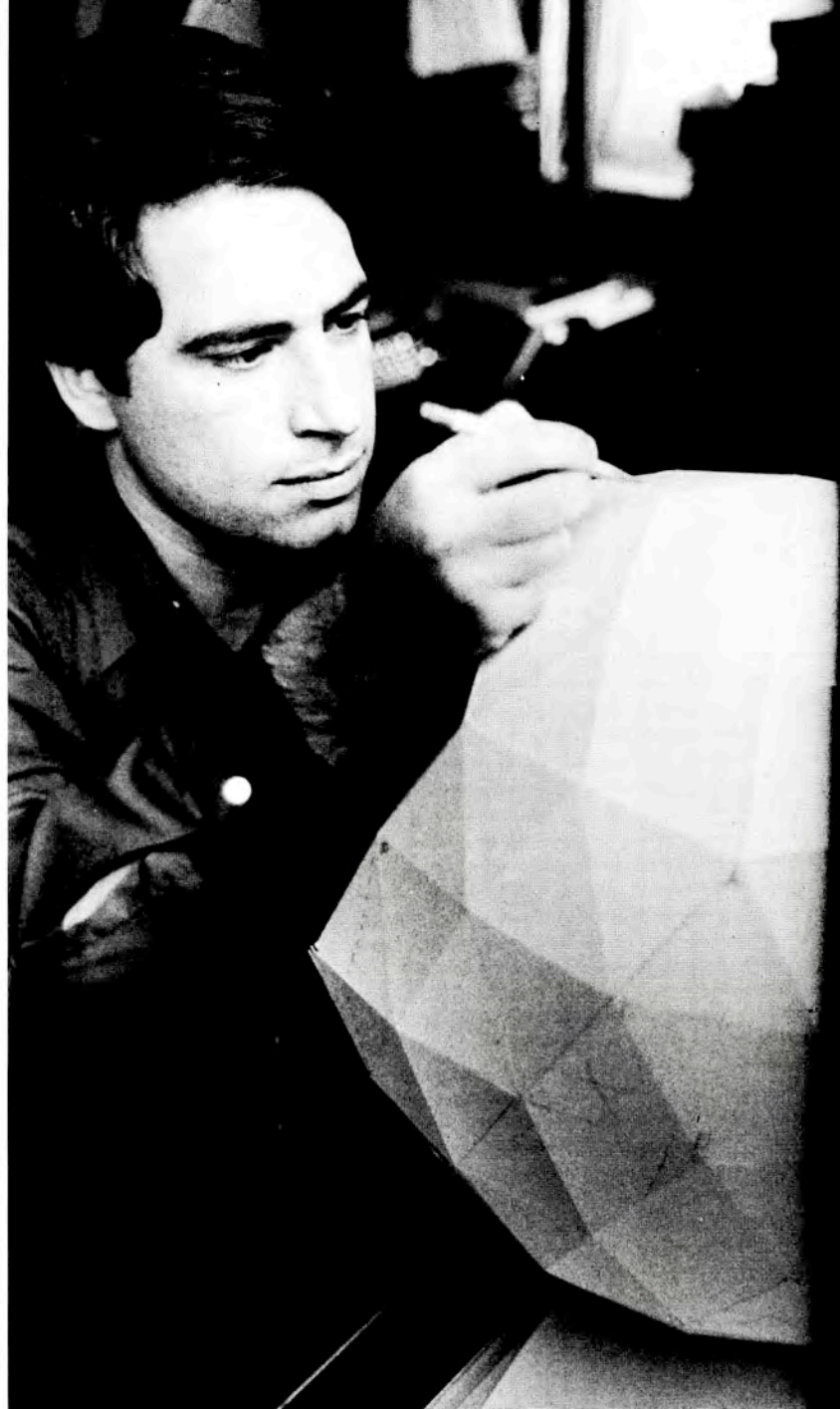
# CHARAS

the improbable  
dome builders

by  
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**the guide  
and  
friend**



# MICHAEL BEN ELI

Upon first meeting Michael, you are struck immediately by a tall, boyishly handsome young man with a ready smile and outgoing quality. Further contact reveals deeper aspects—intelligence, meticulousness, grasp of overall problems, and the means to resolve complex questions. Michael emerges as an exceptional person you know will continue to grow and develop.

He was born twenty-nine years ago in Israel to pioneer parents. That spirit of individualism combined with a strong concern for those around him is still very much part of Michael. His mother, from Spanish and Italian backgrounds, brought a fine sense of the arts to her new homeland. Michael's father came penniless from Russia, burning with zeal. As founder and director of Israel's first maritime museum, Arie Ben Eli still has the same energy that carried him through the '48 war and the enormous struggle to create the museum.

It is this heritage that fed Michael during his formative years. When Michael was five, his father, somehow, took Michael along on patrols into the hostile desert. Michael began to quickly learn the techniques of keen awareness and survival. During summer vacations, he went with his father on deep-sea expeditions seeking lost maritime treasures. The specifics of scientific detail began to fascinate him. Later, Michael would spend long afternoons at the museum studying the antique maps, coins, and seacraft paraphernalia. His imagination was ripe with the wonder of ancient mariners and their skills. This absorption of information and ideas was more beneficial than the formal schooling he was receiving. Michael did not like the rigid demands and control of his classes. Only strong parental intervention prevented him from dropping out of school.

Near the end of his high school education, Michael decided that architecture was to be his future field of study. He also felt that the traditional schooling available in Israel was not for him. He needed freedom, exploration and discovery to feed his fertile mind. He was to have two and one half years to resolve this problem as a 2nd Lieutenant in the Israeli Army. This period was a calming pause for him. There was little if any hostility at this time. Therefore, Michael had long days and nights to think and re-think all that had occurred to him. Strangely, the discipline of army life began to give Michael the inner control he had not previously developed. He was released at the age of 21 and immediately left for England.

Two of Michael's friends, also interested in architecture, had heard about a school in London and had discussed it with Michael. It was not really a school as they had known it. It was founded in the nineteenth century by a group of young men who were strongly

against traditional university education. They set about organizing a school of architecture with teachers who were practicing architects. Thus the attitudes and educational climate of the school depended upon who happened to be teaching and their interaction with students. This was the basic atmosphere of the Architectural Association as Michael encountered it in 1964.

Many students float and dissipate time in an open situation like A.A. The discipline Michael learned while in the army helped him overcome this hazard. He dug in. Mathematics, which had been a hardship while in high school, now became a fascinating new discovery. Michael had truly begun to investigate his own potentials. He was finding this experience a vital and stimulating exercise in his educational development.

Michael, during the first year at A.A., acquired a learning pattern that he now uses constantly. He found that most scientific subjects are taught as if they are inherently difficult. These classes are conducted by teachers who learned from secondary sources. Wherever possible, Michael attempted to go directly to the original source. In this manner the mystery of learning was eliminated. He was surprised to learn that those thinkers who were supposed to be the most difficult and incomprehensible were the sharpest, the clearest and the most beautiful. This experience taught him to make a rule of going straight to the source for his information and to nowhere else.

Toward the end of his first semester, Michael went to a lecture. What he heard completely altered the course of his life. The lecture was given by R. Buckminster Fuller.

Bucky had come to London in January, 1965 to address the British Architectural Students' Association. Bucky wanted architectural schools, all over the world, to conduct an integrated program of studying problems related to world resources and world needs. He then wanted "design solutions" to be proposed as answers to these questions. In 1965, few were concerned with world environment or pollution. Yet, Bucky realized the importance and the need of answers to these pressing issues.

Michael listened intently. He had come to the lecture only out of curiosity. Near the lecture's end, Michael turned to Keith Critchlow, a tutor at the A.A., and talked about how moved he was and how much he would like to help and participate. Keith said that he had met Bucky the previous year. Through the British Architectural Association, Keith had also done some work with Bucky. And, by chance, Keith was going to have breakfast with Bucky the next morning. Keith inquired whether Michael would like to join them. Michael, enthusiastically, responded "Yes." At that breakfast meeting, Michael began his work relationship and friendship with Bucky.

Michael was soon involved in helping plan and install a big ex-

hibition in the Tuileries Gardens of Paris. The following year, Michael spent several months in Ghana, Africa. Here, Michael and Keith worked on design problems, trying to utilize native building materials in the construction of domes. With Bucky, they planned a large aluminum dome for lectures. It was built with the aid of students from the local university.

In '68, there was a major conference and exhibition of Bucky's works. Again, Michael was involved. The contact with Bucky, which began so casually in 1965, was now becoming more frequent and important. Bucky began to see he could rely on Michael. He also recognized Michael's ability to grasp the nuance of geodesic thinking and the emerging idea of Bucky's World Games technique of solving world problems. Briefly, World Games is an approach to studying the global needs of humanity and producing plans which can be initiated for the benefit of all mankind.

Michael's own work at A.A. began to center more and more on urban problems and means of resolving them. What was immediately apparent to him was the lack of any scientific approach to urban problems. He also discovered that the language used to discuss or describe urban problems was not concise or unified. Each expert was inventing his own terms. There was more development of a mystique than a desire to really solve problems.

At about this time Michael met Professor Gordon Pask of System Research, Ltd. Prof. Pask's organization is a non-profit group for research in cybernetics and behavioral sciences. Through Pask, Michael began his inquiry and interest in cybernetics and the study of joint systems. This new field of study fit in nicely with everything he had learned from Bucky. It was also possible to synthesize Bucky's ideas with Pask's concept of developing proper investigatory procedures and solutions.

By 1969, Bucky asked Michael to come to the United States and work with him at Carbondale, Ill. There, at the University of Southern Illinois, Bucky had established his World Games headquarters. Michael did not have a chance to do any studying at Carbondale since most of his time was with Bucky. This meant following Bucky's incredible schedule of traveling from lecture to conference on a nearly constant basis.

At the many lectures and seminars Michael attended with Bucky during this period, Michael began to realize that the problem was not the technological and scientific potential but, rather, the lack of a purely organizational process, on global terms, of focusing and channelling this necessary work.

At about this time Gordon Pask was appointed Professor at Brunel University in London. Michael enrolled in the graduate program. He was going to try to create a system to help organize technological and scientific information and personnel for the benefits of

all men. This would be his thesis. Maybe more, his life work. The year of 1970 was spent partly in London between his visits to New York City to continue the work he had begun with the CHARAS group.

Chino and Angelo had contacted Bucky in January of 1970. They represented a small group of Puerto Rican young men who seemed interested in building domes. It was their idea that, in time, they could develop their dome-building skills into a commercial activity. Bucky seemed impressed with their sincerity and asked Michael to spend some time with them. It was thought that Michael would work with them as he had worked with many college groups before. He would assist and supervise them in the erection of a dome and then move on. But this was not the situation Michael encountered when he first visited the CHARAS group.



*John Deline, the Denver paper board manufacturer, conferring with Michael and Roy.*

Michael recalled his feelings and memories of these initial meetings and further two years of work, struggle and success with CHARAS while seated in the 21st floor, Upper East Side, bright and modern apartment of his bride to be, Marcia McElrath. This comfortable apartment, with its paintings (by Marcia, who worked as Art Director for *World Magazine*), modern furnishings, airy view of New York was in vivid contradiction to the conditions he found while working and living with the CHARAS people.

108 Michael's usual expression of warmth and outgoing spirit becomes somewhat saddened as he thinks back to those early days.



His look and voice develop a dull, listless quality. They convey the dismay and basic shock he experienced at his first sessions. "Most of them didn't have any orderly school education. They had no mathematical concepts in their backgrounds. I realized immediately they had no resources, no money, no place to work, really nothing."

Michael recalls that most of the guys were drinking a lot at that time and had poor attention spans and limited conversational potentials. "I realized to build a dome, or give them a blueprint of how to build one didn't make sense. What was really wanted was a training program. Basic knowledge. Then they would be able to understand what it is to really build a dome. So, I decided to start this program. Yah, it took about a year."

1970 was an extremely difficult year for Michael. That winter, Michael had very little money. He lived with the CHARAS group as best he could. Luckily, he was asked to teach at Columbia University that winter. That income was helpful in starting his project. Michael's entire body seems to wince, reliving those hard winter days. "We used to live in all kinds of cellars on the Lower East Side, all kinds of places. Sometimes we were frustrated by not being able to buy pencils and paper. It was also very difficult to interest people in supporting our program because there was nothing we could show."

The problems of that period were not only external but very strongly internal as well. "It was very difficult to hold their attention. They could not see what the connection was of all the things I was talking about, all the triangles and cosines, and the one thing they wanted to do. Namely, to build a house."

In this early period, there was a band of about seven that attended "classes" conducted by Michael. Due to the erratic schooling conditions, or lack of them, the people attending these sessions had great difficulty in comprehending the intangibles involved in dome mathematics and concepts. "They had been conditioned to see and understand their reality of immediate survival. It was very hard to see a few steps ahead. To some extent, this is still true when complex planning is needed. But they have certainly come a long way."



The degree of dissatisfaction and disillusionment during this early period was the worst Michael had ever experienced. His voice has the strain of not wanting to admit the depth of depression he had known then. He takes a long look out the window at the extended landscape of the city before he goes on. "It was very unsatisfying. You couldn't see any fruits of your labor. I really don't know what gave me the patience to go on. There was no feedback at all. It looked hopeless all the time. In fact, there were quite a few times I was at the point of giving it all up. Now, this is something I don't like to do in principle. That is probably why I continued. But, somehow, things grew. Roy became most secure with what I was doing. He had more background than the rest. It became easier for him to understand. And, through some friends, by the end of that year, we managed to get the Container Corporation of America to produce the needed shell of the dome. It was going to be a new form of corrugated board they had developed from paper.

"Then in 1971, a grant from the New York State Council on the Arts came through. CHARAS was given \$15,000 to research and build two domes on a site in the Lower East Side."

Michael now became very philosophical, reflecting retrospectively on that first year. He settles effortlessly into a leather Mies van der Rohe chair. He has given his thoughts consideration for some time. He now speaks freely and with ease. "I think that in life you have to be able to oscillate between freedom and structure and order. Freedom is probably the most difficult thing there is. You have to work very hard to build a freedom. A society truly built upon freedom can exist only after a structuring has taken place. It can be a very loose structuring, but it has to be structured. What I'm really talking about is the kind of freedom only a master painter can achieve after 20 or 30 years of struggle. But, primarily you're talking about a process, a problem process, and a process that is organized because of background and training. In CHARAS you had little of this. You had a group of young men with really good vision who had undergone major changes in their conceptual orientation to life. They turned from things like mugging and other negative episodes to activities of great positive worth. But they had absolutely no ideas, no previous training, no tradition, nothing of knowing how to really change a concept into a reality. And they had a tendency, I think, to shy away from problems. In that case they were a little bit like children in their enthusiasms. When the task resisted, they would lose interest. I think that this is something which is pretty much a social-cultural privation. Any schooling, no matter how bad (and most today are bad), trains you to put a concentrated effort to break a problem. Most of the people in CHARAS never had this.

"I discovered the only way to overcome this tremendous gap was



to have patience. The only way you can get a group like this to grow and develop is by deliberately creating situations that will be immediate and striking. Anybody involved will really understand what is right or wrong. You've got to bring forth spontaneous understanding. It's not a question of textbooks or authority.

"And it takes time. You have to wait before the realization dawns, is understood and is converted automatically to self-motivated knowledge.

"There were times I was depressed. I was very anxious. I tried to push them hard sometimes. Until I realized there's no question of pushing anybody, or telling them or shouting or anything like this. You have to have patience and see how it develops. And in a society where it is said that time is money, this kind of thinking is very difficult. But it is necessary. If we can get people, all people, to think then many of the problems will be understood and, maybe, solutions will be created.

"I really learned that from Bucky. I often heard him talk about sharing all you know. He looks at it as an absolutely matter of fact

thing. He feels that it's almost your responsibility to share your knowledge and your advantage with other human beings.

"I also learned that nothing can be done in one day. And the one thing that overwhelmed me with CHARAS was just how long it took to get going. Yet, I think the results are very positive. But it took an incredible effort. Not physical effort. But of time. You have got to totally reorient your thinking about 'time is money.' But you must begin to count the incredible amount of results you can get by educating all people."

Michael's level of intensity and energy is extremely high now. He stands and looks about the long living room space. He has more work to do. He's about to tackle his first "commercial" job of originating and building a complex for an Israeli orange juice concern. He is eager to see if all that he has learned from Bucky and the men at CHARAS can somehow be utilized in this new venture.

He calls out for his "Miss Marcia" and says, "Let's eat." Michael walks towards the dining table with the assurance of knowing the food will be good and that tomorrow will, somehow, be met very squarely and firmly. There is work to be done and Michael looks forward to it.

