

Once around the sun in

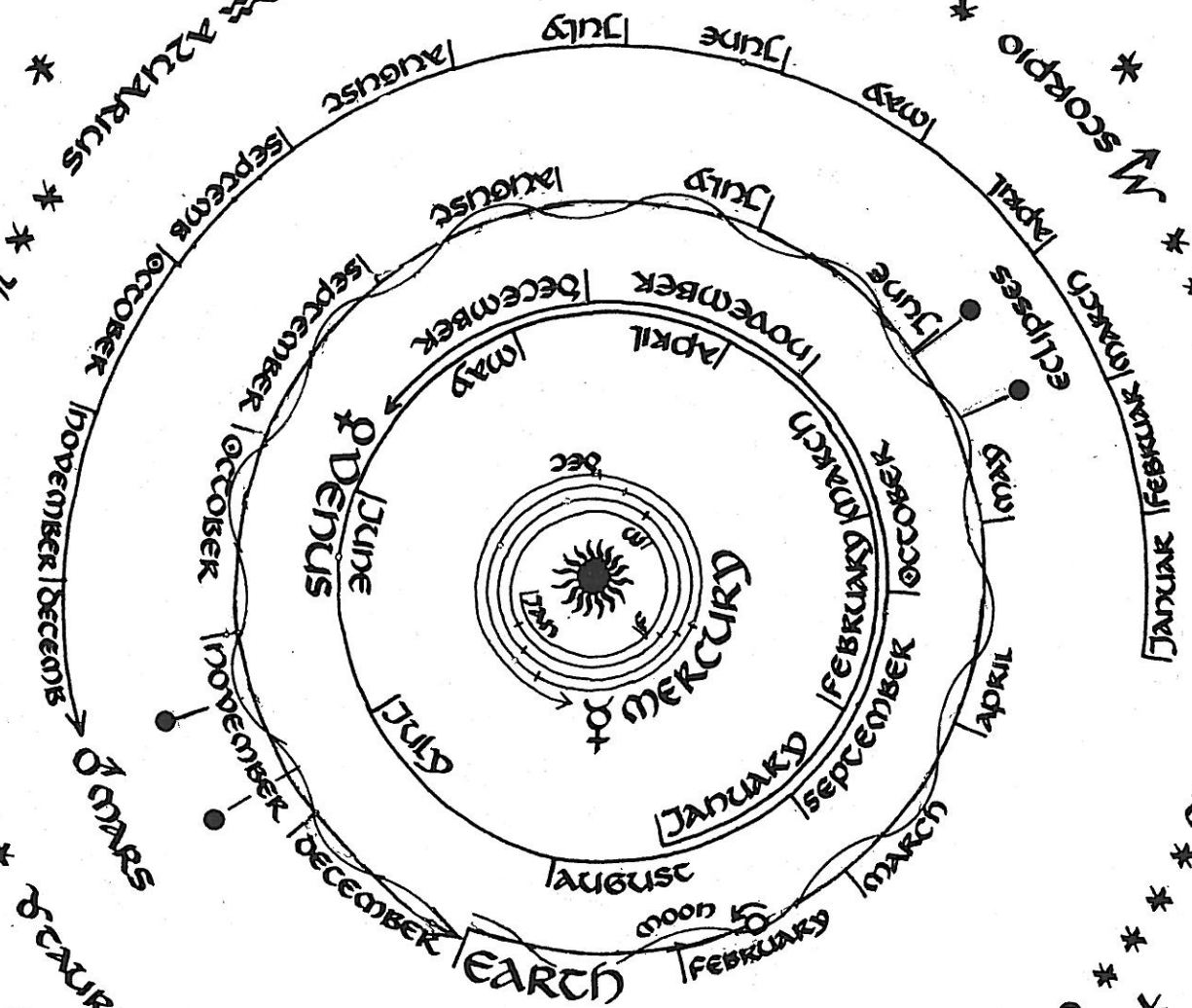
2003

If you hold the map of the solar system in your hands, imagine the north star is way behind your head. Our planets move in a counter-clockwise direction along their orbits; they also rotate counter-clockwise. Wind your star-clock by putting pins at the right date for each planet – accuracy within a quarter month is fine. (We give Earth a blue pin, a red one for Mars.) Now imagine, or even paint, a small dot on the side of the earth sphere. That's you! Turn our planet so you are looking out from earth opposite to the sun's position: midnight. Think where your horizon must be: you can see half of the sky, with west on the right side, east on the left. Whatever planets are on this half of the sky will be visible unless clouds interfere. Turn the earth eastward - counter-clockwise - a quarter turn. Some stars and planets that were in your sky might set in the west, some new ones might rise. After the quarter turn the sun is about to rise.

Jupiter and Saturn are really about three times further out than they appear in our model. If you know about parallax, you can take their true directions from the sun; if that is arcane to you, pay no attention. Wind the clock as intermittently as you choose. We love the sense this toy gives us of our position in three dimensions among the great ones.

$\phi^2 M$

people of west africa * the sun is new every day * heraclitus. the sky at night is like a big city where beasts and men abound, but never once has anyone killed a fowl or goat, and no bear has ever killed a prey. the
 are no accidents; there are no losses. everything knows its way. * * * from the ew
 * * * * *



2003
 2002
 2003

strip 1

HOW THE SUN SHINES



fold

cut here

fold

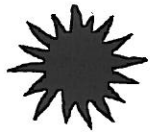
fold

Take 2 ^{EARTH} globes into sunshine — free from their stands

You could paint a small one on a ping-pong ball



Notice shadows



How much of a globe can the sun light?

Indoor lights make other kinds of shadows.



paste this end to back of strip 2

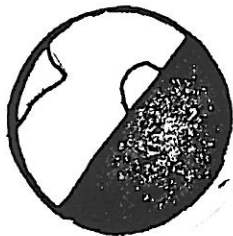
cut

strip 2



time for your little globe
time for your big globe
time for the great earth globe

No matter how you move it, ^{JUST} ONLY HALF IS LIT



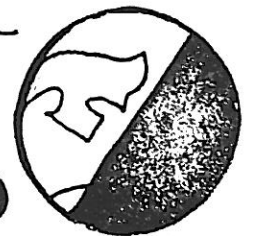
Set the big globe so the shadow falls on special places

Move the little globe so the shadows match



A wonderful thing happens

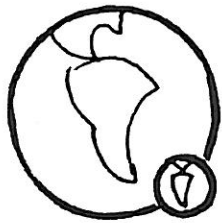
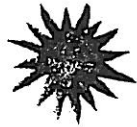
the two globes are "oriented" — turned the same way!



paste this end to back of strip 3

strip 3

Try the opposite



Orient the
globes
the same
way

fold

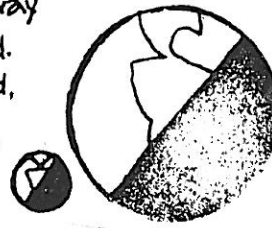
cut here

fold

fold

When the sun shines
on them
the shadows fall the
same way

If shadows fall the same way
on two globes,
the globes are oriented.
If two globes are oriented,
the shadows will fall
the same way on both.



Where is the
great earth
right now?



Think -

close your eyes

paste this end to back of strip 4

cut

strip 4

It is below you.
you are on top!



No matter WHERE you are.

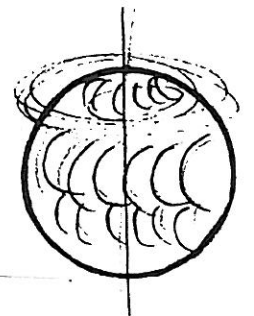
Try this with
your two globes



Put your
place
on top.

That's not enough -

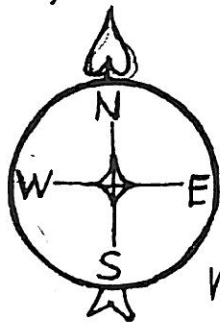
The globes
can still spin
around
your place



paste this end to back of strip 5

strip 5

If a direction matches they will be locked together.



North is such a direction. Find north where you are.

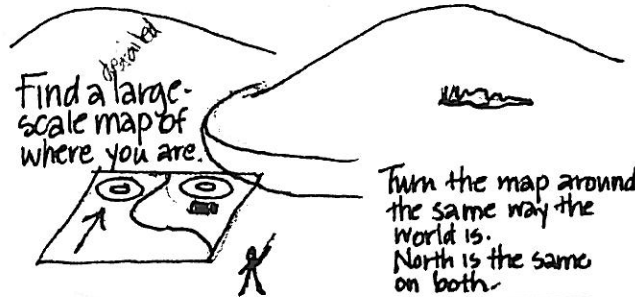
fold

cut here

fold

fold

Ask a neighbor. Use a map.



Turn your little earths so that the north line through your place points to real north.

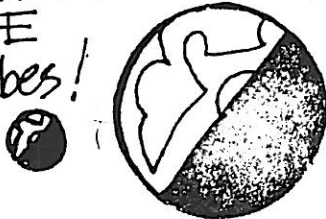


paste this end to back of strip 6

cut

strip 6

The sun falls the same on all THREE oriented globes!



as you see on little ones, so on the great one.

What can you see?

Is one pole sun-lit?

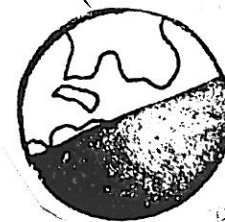
are they swimming in hawaii?

Who sleeps?

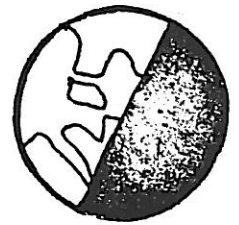
Where is the closest piece of night?



Wait. The shadow moves.



Is it the correct motion?



paste this end to back of strip 7

strip 7

Stick the globes together, keeping your place on top.



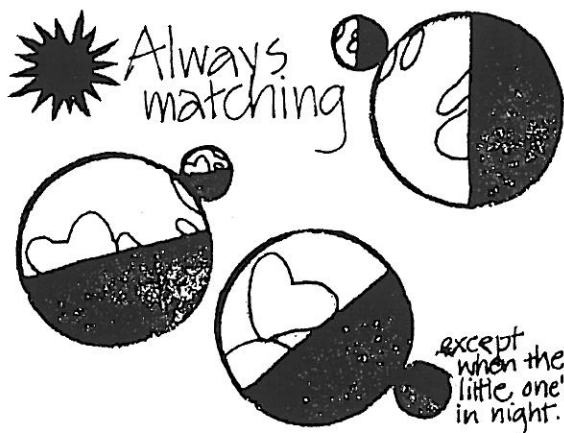
Move them many ways, watching the shadow.

fold

cut here

fold

fold



Orient them to the earth again



As little globe to big, So big globe to great one.

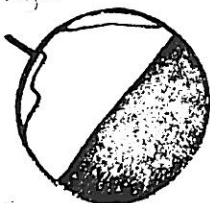
paste this end to back of strip 8

cut

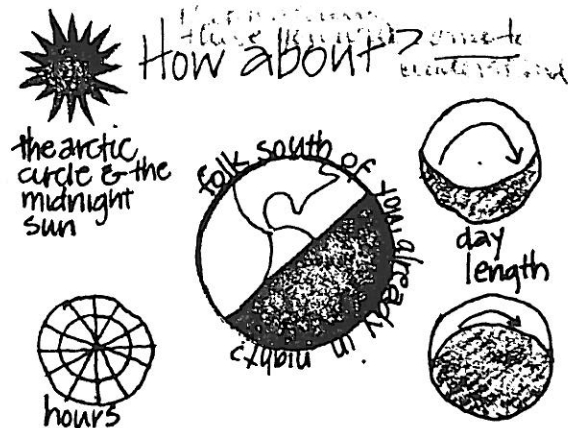
strip 8

Someplace on earth, right this minute the sun is overhead.

Move around an upright little stick until it has no shadow, & you will know where.

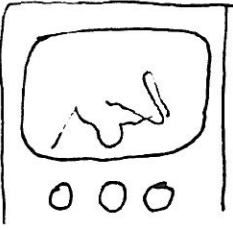


If you remember that the sun rises in the east, you can see where sunrise & sunset are. Noon is half-way between. At what time is your place? You can use your oriented globe as a sun clock.



paste this end to back of strip 9

strip 9



Look at
players'
shadows during
a TV ball game.

Can you puzzle out where
the game is?

Could it be a rebroadcast?

strip10

fold

cut here

fold

fold



If you kept watching,
you could see
the seasons



change.

paste this end to back of strip 10

cut

paste this end to back of strip 11

Early Days

Phylis was born to Victor and Angela Hagen in Orange Hospital in May of 1927. Her first summer she and her mother travel to Germany to visit grandparents. Later that year her parents separated and soon baby and Mother moved to Europe. Phylis's mother died shortly afterward and she was passed from Aunt to Aunt around Germany and Austria. German was her first language, Nuns were her first teachers. She has chosen to tell very little of this time in her life. Much other what we know comes from others the Chalif girls Sonia and Peggy and her Big Sister/~~Surrogate~~ Mother, Betty Hagen Beardsley. The only story I remember her telling from her youth in Europe is going to school in Salzburg. She had to pass thru a gate in a fence that opened into a park and while she was in the park only a short time geese that were as big as she was always tried to peck at her. No matter how fast she ran they always got a few nips at her and these always hurt. With her American citizenship Phylis was shipped back to her father in 1938 once Hitler entered Austria.

It seems that a new wife did not appreciate having to take care of someone else's child. The Hagen Family lived in Short Hills NJ where Phylis attended both the public schools and the Buxton School. At about the time Phylis was entering High School the Family moved to Grosse Point Michigan. As the included letter attests Mother was an Active engaged student. High School and surely Family life was tedious to Phylis and at the end of her junior year she talked her way into Collage. The school was Olivet College in Olivet Michigan. She left for there as soon as school of over in June.

She introduced herself to the Dean who asked her what she had been studying and she said that she liked the Greek Myths. He asked if she had read the Greek plays? She had not heard of them. The Dean sent her to Teacher Copp who challenged Phylis to read the plays. Each week she was to come back to her mentor and talk about what she was reading. At the end of the summer they would decide if she was ready for college.

We can imagine the excitement and understanding that Phylis brought back to teacher Copp each week. She was accepted as a regular student that fall. I don't believe that she ever went home to Grosse Point Again. Or even talked to her father

Men came back from the war and my father Jaf met Phylis at Olivet. They also went for a while to the University of Michigan at Lansing. Phylis and Jaf left Michigan and via unknown routes maybe including a time in Atlanta made there way to NJ where Phylis had the support of her sister Betty and the Curtus/Whitesell and Chalif families.

Phylis Jaf and baby me lived in Union, Phylis and Jaf worked at photographers for Insurance claims. I remember graph ilx cameras with huge flash bulbs being around the house. There were also twin lens reflex cameras as well. In fact my first camera was a twin lens reflex camera using 120 film.

Phylis also worked at a seamstress and pottery painter peace work. When it was time to send me to school she decided to send me to the Far Brook School an out growth of the Buxton school that she had gone to. In order to afford to send me there. She joined the faculty as the Art Teacher.

Far Brook and Winifred Moore the headmistress encouraged Phylis to explore the world thru the students. Mother lead the students in tradional arts painting and sculpting but added block print cutting and typesetting, bookbinding. Phylis was responsible for the set design and costumes for the all school plays.

This is where she met Alan Holden with whom she collaborated on her first best selling book. Phylis was able to explore teaching/learning at Far Brook and grew to understand the process incredibly well.

Phylis Morrison, born in New Jersey in 1927, died this summer, July 9, aged seventy five, among her friends and family at her Cambridge home of forty years. Sunday, October 6, we commemorate her life and work in solace, gratitude and admiration. We hope and we expect that recollections of her gifted mind and wit, her acute gaze, her deft hands and warmly giving heart, will help us grasp the world as she did in all its fullness, notably the women, the men, and the children who people it, their histories and their hopeful prospects.

She was a keen scholar, one who claimed she had never graduated any school, not even kindergarten. Graphics artist,

author, teacher in the classroom and outside, her original marks are clear in many lands. She held art and science as partners, and she listed herself credibly as master or journeyman of twenty-odd disciplines and crafts: patterns and symmetries, growing crystals, gardens, and ancient crop plants, caring lovingly for our family home (one grown son), weaving, printing in many forms and alphabets, photography with computer graphics, beadwork in 1-, 2- and 3D, doll-making...

Sunday, October 6—Phi-day?—many invited friends will gather at MIT to recall her, examine artifacts, and use her tools to augment the memories all have brought. Phylis knew that words alone do not suffice.

NO BOUNDARIES, ONLY CONNECTIONS
PLAY WITH RIGOR
DYACIE ILLUSTRATIONS

CREATIVITY, THOUGHTFULNESS, WONDER

Φ Day Invitation/fact sheet

Sunday October 6, 2002 - Φ day - a day to celebrate the life and works of Phylis Morrison (May 6, 1927 to July 9, 2002). Participants should come to the MIT campus and make their way to room 6 -120, by 10AM, a lecture theater of the MIT Physics department. We will open by introducing Phylis's life, words, and artifacts. There will be a short time for remembrances. We will then break into smaller groups, to discuss how we will use our experiences with Phylis to enjoy the wide world and to make it better.

Work tables will have various of her creations for you to use freely, art, science, weaving, beading, calligraphy, books, photos...

Bring in what you have of hers to show or recall. A selection of comments and materials sent by friends in celebration is here. We will gather your words and any product of the various work tables to send them later to you at home as a report of the day.

Schedule:

9:30	-	10:00	Light Breakfast (outside room 6 -120)
10:00	-	11:00	Introductory meeting with talks about Phylis and her hopes, some prepared, some impromptu.
11:00	-	2:00	Work Group Tables & Rooms Teaching Crafts/books Alphabetics Open Conversation
12:00	-	1:00	Lunch buffet available in the Compton room 26 -110
2:00	-	2:30	Close with Baroque music live in room 6 -120

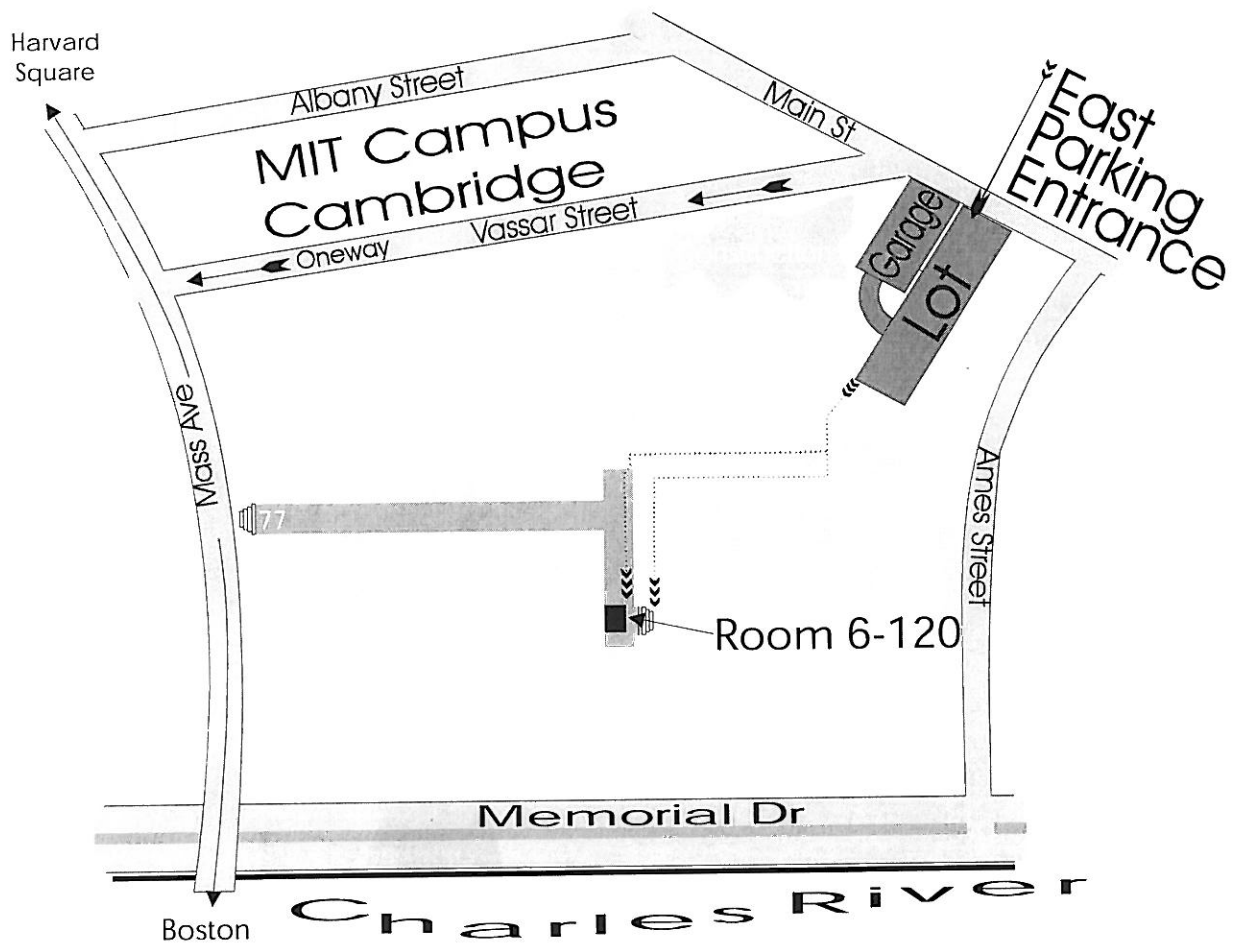
RSVP: to Phil Morrison or Bert Singer, at
617-868-0234 or Physday@aol.com, by Wednesday, September 25,
naming the people who are coming, —Fail Not!

FINDING ROOM 6-120: see included map

By Car, park in the MIT East Lot and Garage. These spaces are available *without permit on Sunday, October 6*. There will be signs directing you from the parking spaces to room 6 -120.

Public transport will take you to 77 Mass Ave. There will be signs posted to help you get to room 6 -120 from there. Red Line to Kendall Sq is a second route.

You might bring garden flowers, or a small pumpkin.



Morrison
11 Bowdoin St
Cambridge, Ma. 02138

men.tor (men tor, -ter) *n.* 1. A wise and trusted counselor or teacher.
2. Mentor. *Greek Mythology.* Odysseus's trusted counselor, under whose disguise Athena became the guardian and teacher of Telemachus. **-mentor** *v.* **-tored, -tor.ing, -tors.** *Informal. -intr.* To serve as a trusted counselor, especially in an occupational setting.

phyl.is morr.i.son *n.* 1. Mentor, wise and trusted teacher 2. Artist 3. Author 4. Mentor 5. Scientist 6. Mentor 7. Intellectual temptress 8. Wife 9. Mentor 10. Craftsman 11. Mentor 12. Mother 13. Mentor 14. Scholar 15. Mentor 16. FAIRY/GOD MOTHER 17. Friend 18. MOTHER OF US ALL

We are collecting a list of the ways in which Phylis mentored many of us at different times in her life and in ours. Please add your experiences to this list.

NO BOUNDARIES, ONLY CONNECTIONS

WEAVING

BRAVERY BRAVERY!

Keeping open possibilities for living Mart + Science
Phylis saw what was best in me, long before I had any idea,
and nurtured those seedlings over 50 years. Sally Adams^{Chernoff}
The power of the 4 years I spent at
Far Brook School with Phylis as art + science
teacher has remained with me and influenced
my entire life as a teacher and human
being. What a legacy — Martha F. Bicknell

WELL, SHE NOTICED PEOPLE, & THINGS, & CARED ABOUT
THEM. IN MY CASE SHE TOOK THE TIME
TO WRITE AN ENCOURAGING LETTER WHEN I
LEFT THE EXPLORATORIUM. I HAD WORKED
THERE FOR 20 YEARS & SHE KNEW IT WAS A
DIFFICULT, BUT EXCITING TIME FOR ME.

HOW DID SHE FIND THE TIME TO INCLUDE
SO MANY IN HER LIFE?

JOE ANSEL

Phylis gathered us/me up during that time of
vague and almost directionless adolescence. Surely she
judged us, at least a little, but we felt we came
to better decisions and better selves on our own -
as though we had invented our own adulthood. But
surely it was she who guided us. ~~Suzanne Smith~~

When I was 4 or 5 I was at some kind of
reception at the Children's Museum. They were serving
little blocks of ice cream with a small square of
gold leaf on each block. At first I was scared
of eating it, but Phylis told me it was gold and
that it was ok to eat it. I felt I must be very
special to me eating gold!

Gloria P. introduced me to Phylis as a caregiver
and it was intrigue at first sight - she was
a nurse to me and a gift - and so is Phil. ~~Black Milk~~

I only met Phylis once, with my husband who has known
her & Phil for years. We arrived at their house mid-
evening & I realized I'd left my jacket at a
house nearby where we'd been at a reception. She
took my hand & said "We'll walk & get it together"
It was a warm & beautiful evening - 3 days before
Sept. 11 - & it's a lovely memory - walking & talking →

I first met Phyllis in 1966 when I started to work ~~with~~ at the Elementary Science study and a little later with the Workshop For Learning Things. After that our paths crossed infrequently at workshops, vacations, and riverboat jazz conferences. These occasional meetings had a vast impact on my teaching and how I think about teaching: the value of making "grown-up" technical books available for children, the search for patterns everywhere, a love of texture, symmetry, and color, and the lack of boundaries between art and science. Grabbing a microscope in the middle of dinner to look at a fly's wing. Jumping on something you say and get totally involved making you see much more in your idea than you recognized. I see now that much of the playful, artistic, investigative culture that helped shape me at ESS was a result of Phyllis' presence. But she never claimed that importance as hers.

Merle Bruns, Hampshire College

I'm NOT TAUGHT WELL CONVENTIONALLY SO PHYLLIS WAS ANY KIND OF TEACHER. Wanda Fierman

Clark University Teacher preparation with Phyllis and Ann Goldsmith - Figuring out how to set up our space, figuring out what to put in it, figuring out how to talk with our students about what we were trying to provide & encourage, what they wanted to do
thin ideas of over

Phyllis taught me to hold creativity as a
value in my life, ~~in~~ ⁱⁿ my family,
in my community, in my work!
CREATIVITY IS A VALUE.

For ARTISTS

For TEACHERS

For SCIENTISTS

For RESEARCHERS

For CHILDREN,

For ADULTS.

For community.

Catherine K. Hunter

She taught me the value of listening,
of the long pause, of seeing and
sensing. Phil said: "She taught me
something new every day." I think she
could have gone on doing that forever.

- Michael Filisky

She is a lover who focused my attention on
the obvious. Many of us ^{greater} Cambridge types
dismiss the obvious, even before we see it ~~for~~ ^{fully}.
Or hear it, smell it, feel its texture. There is more to say

Catherine K. Hunter

We were asked to bring to this celebration
something that Phyllis had given us. My hand
went to the Agfa-Loupe. Both concrete and
emblematic of her spirit, it taught me, she
taught me to observe carefully, to "notice."
And this I try to do, continually, in all areas of
my life, and to weigh next trials with the observations.

Mimi Garry Neighbor