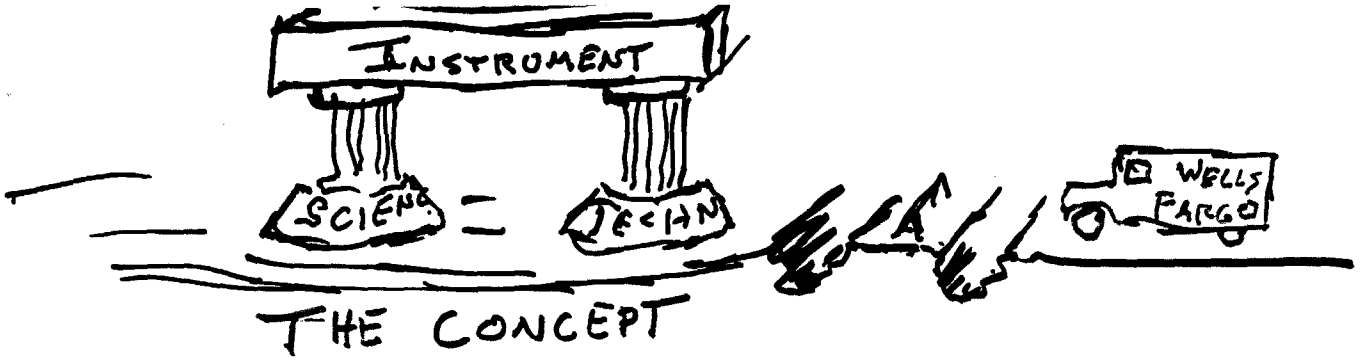
SQUARE KILOMETER ARRAY
US CONSORTIUM

FEBRUARY 28 AND 29, 2000
ARECIBO OBSERVATORY/NAIC, CORNELL UNIVERSITY

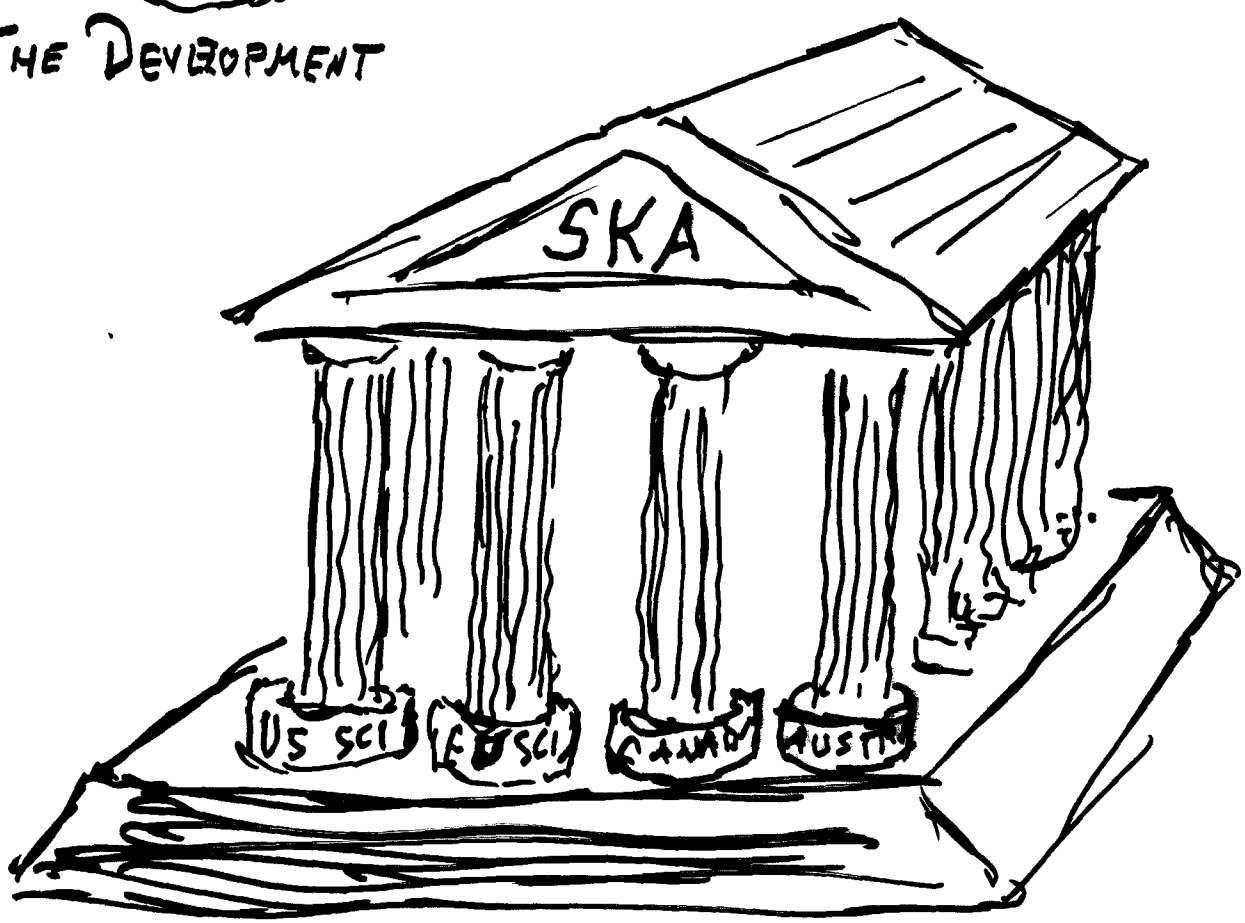
Summary and Concluding Remarks

Speaker: Bernie Burke, MIT



THE CONCEPT

THE DEVELOPMENT



GETTING THERE

Work toward National & International Management

Start "Phase A" Studies - Concrete designs, defensible budget estimates, credible technology, accompanying technical work

Compare competing concepts, reconcile expertise

Keep scientific community informed

Work with NSF, NASA in sharpening up the budget estimates

Internationally, firm up national commitments

Question: Is operating international organization by 2003 a realistic goal?

Question: Is $600M a realistic cost estimate?

Question: Is 22 GHz a feasible high-frequency limit?

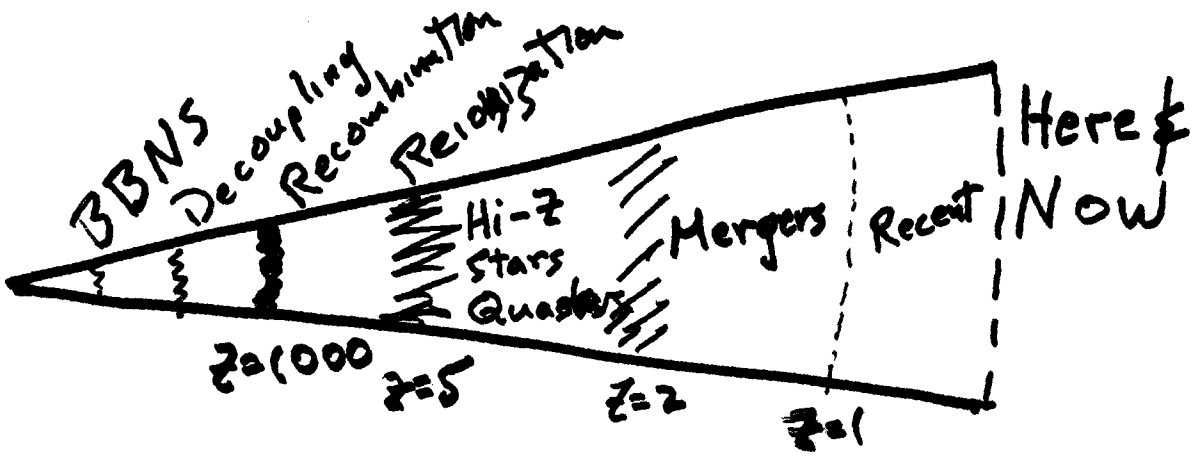
In general, time is now to press the NSF and convince our colleagues that the SKA is ready to follow ALMA in MRE

GET TO WORK!

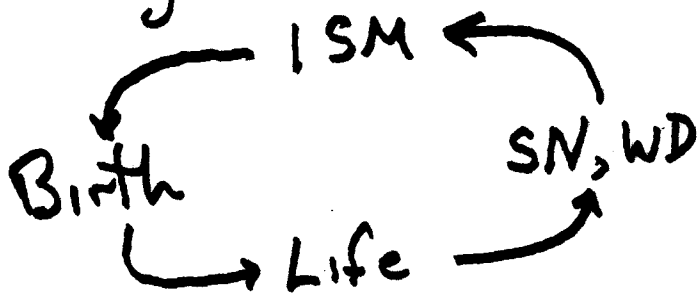
SKA Science

"Themes & Dreams"

The Early Universe
The Evolving Universe
Stars & Planets
Fundamental Physics



The Cosmic Cycle



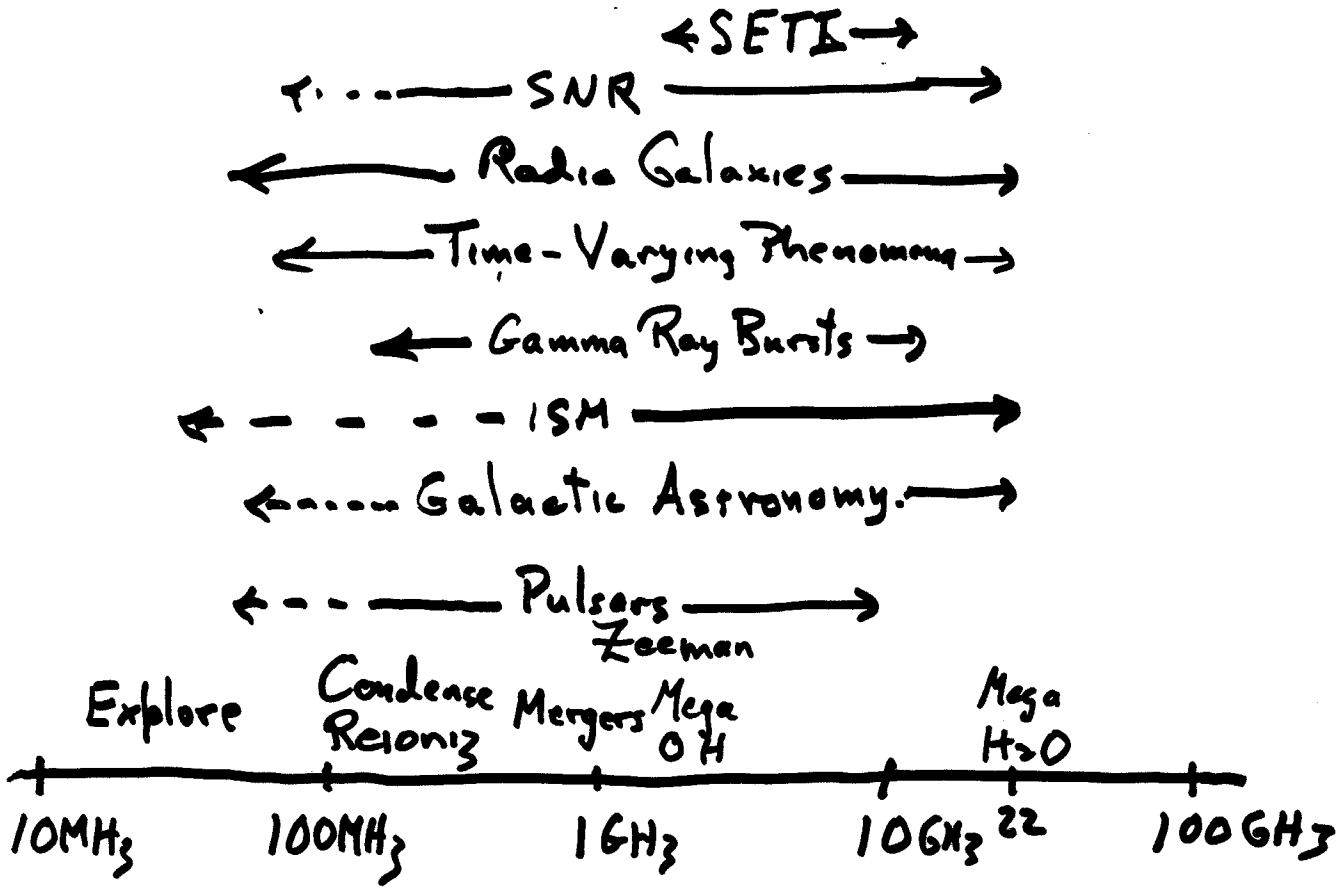
Comparson with NFRA '99 Symposium

Heavier emphasis on k-band projects

Greater interest in Magnetic Fields, pulsars

Less (?) emphasis on galactic structure

Revive Phjnny's theme: marcsec resolution


SETI
SNR
Radio Galaxies
Time-Varying Phenomena
Gamma Ray Bursts
ISM
Galactic Astronomy
Pulsars
Zeeman
Explore
Condense
Reioniz
Mergers
Mega
OH
Mega
H2O
10MHz
100MHz
1GHz
10GHz
22
100GHz

National Issues

How to obtain NSF (NASA) Support ?

The financial Catch-22

[No money without concept
No concept without money]

Forming a National program

Formulating National requirements

Must Develop Straw-man designs

[with realistic costs]

International Issues

Work toward a structured program

Line up national financial commitments

Reconcile Divergent Requirements

Define a site

State of Technology

Elements (Dishes, Dipoles)	Promising
Feeds	Promising
LNA's	Promising
Interconnections	Not yet
Correlator	Promising
Post-processing	Yes
Configuration	Promising

Major Technical Issues (Cost-related)

- Element Design D=3 in? D=10 m?
- Interconnections-Modems (Analog? Early digital?)
- Array Design Large N?
- RFI minimization

Define the Trade-offs & Limits

Encourage the DSN, derive the fallout