

Improving Global Access to Radiation Therapy

Entrepreneurial Strategies

Ajit Singh, Ph.D.

ARTIMAN VENTURES

CERN Workshop

November 8th, 2016

three

vignettes

1

analogies

2

ecosystems

3

strategies

1

analogies

2

ecosystems

3

strategies



what % of the time does a car get driven?

8%

why?



how many hospital beds are **empty** today
in Delhi + Bombay + Bangalore?

10,000

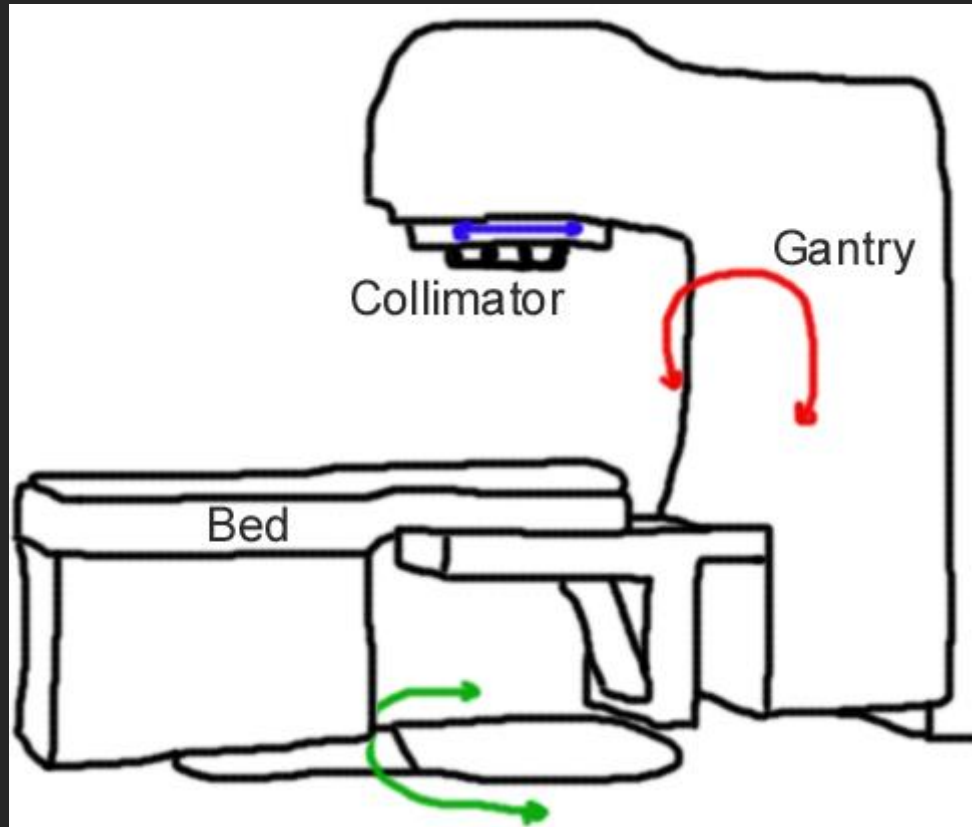
why?



what is the average **utilization** of a PET-CT, globally

18%

why?



what is the average **utilization** of a Linac, globally

20%

why?



what is the average **door to needle** time for stroke patients

27 minutes

why?



Grameen Bank
Banking for the Poor

what is the average **loan default rate** of the bank

5%

why?

1

analogies

2

ecosystems

3

strategies

lets take a short

journey

through a place of immense

diversity



























a small
archipelago

a rich
diversity
of life

on

land

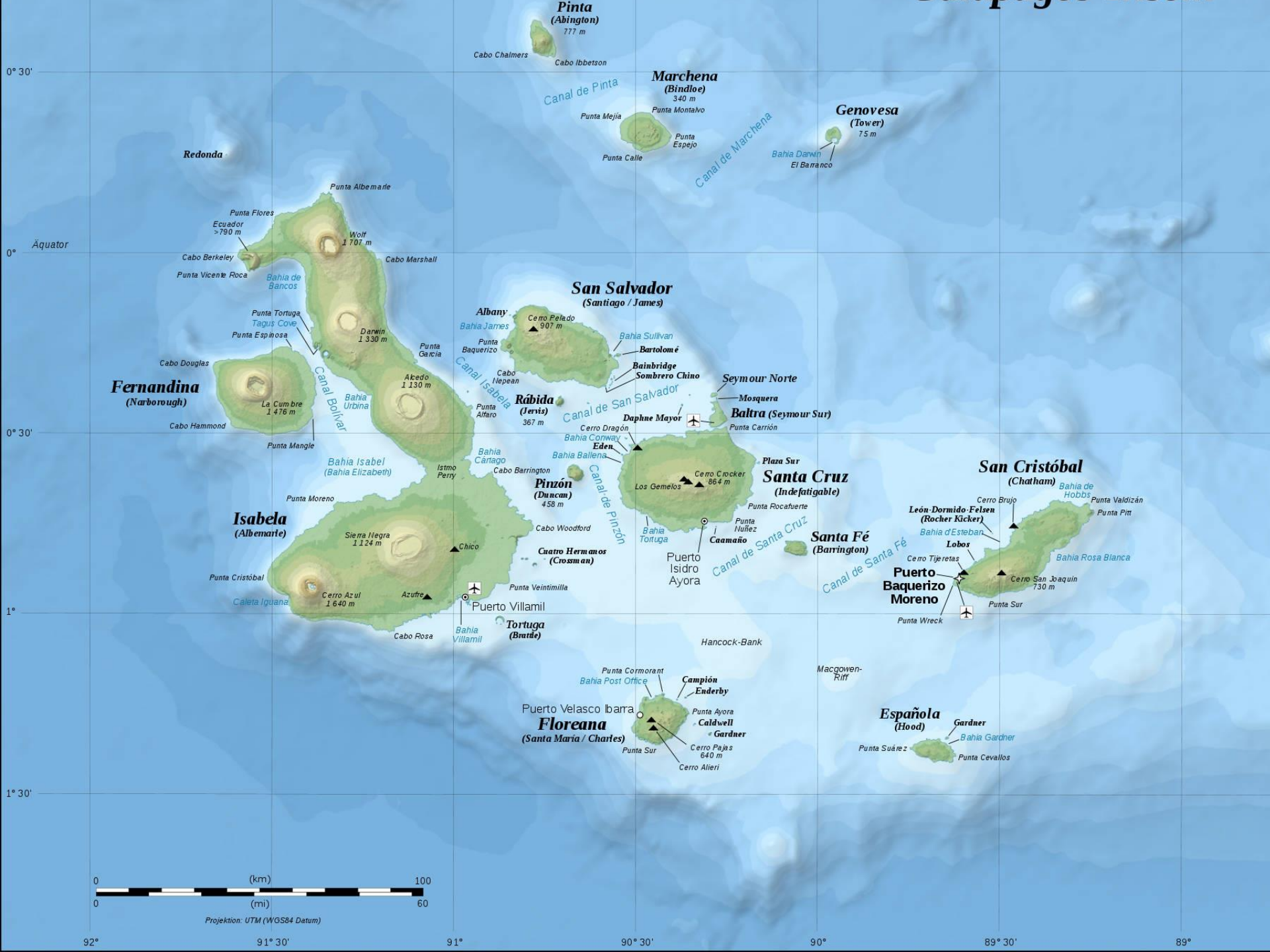
in
water

and
sky









Pinta
(Abington)
777 m

Marchena
(Bindloe)
340 m

Genovesa
(Tower)
75 m

San Salvador
(Santiago / James)

Rábida
(Jervis)
367 m

Eden

Santa Cruz
(Indefatigable)

San Cristóbal
(Chatham)

Floreana
(Santa María / Charles)

Española
(Hood)

Fernandina
(Narborough)

Isabela
(Albemarle)



92° 91° 30' 91° 90° 30' 90° 89° 30' 89°









nature's

innovation

platform

1

right

temperature

2

good

mobility

3

natural mixing of

diversity

connections

are made

failures

are discarded

that's nature's platform for
innovation

it is an

ecosystem

**why is this difficult to replicate in
radiation oncology**

1

very

hierarchical

cultures

2

very poor

diversity of
viewpoints

3

very poor

listening

skills

disruptive innovation requires

trans-disciplinarity

and trans-disciplinarity requires

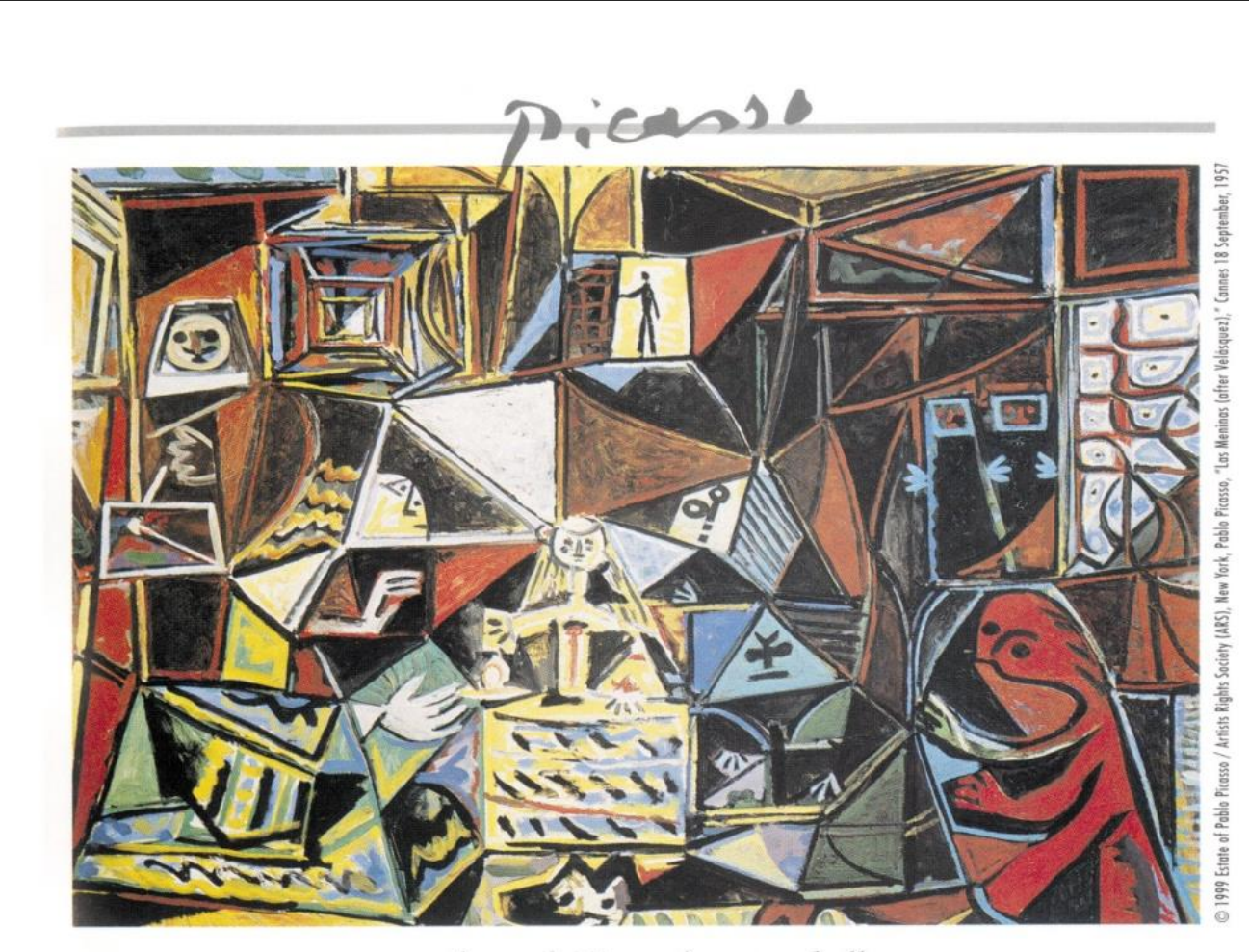
true dialog

**In the dialog,
our onus is to figure out the**

pattern

that lies hidden underneath

to see through Picasso's outer shell and uncover...



the Velazquez that lies behind it.



© 1999 Bridgeman Art Library, Velázquez, "Les Meninas," 1655

recognizing the

pattern

helps with the strategy

1

analogies

2

ecosystems

3

strategies

what are we

solving

for?

affordability

and

access

we have exactly

five

levers

- a** capital cost and infrastructure
- b** reliability and service
- c** diagnosis
- d** prescription
- e** planning and treatment

Long Term

Short Term

a

capital cost and infrastructure

b

reliability and service

c

diagnosis

d

prescription

e

planning and treatment



think multi-variate

uber

(and utilize the free-time of the following resources)

- a** linac
- b** service engineer
- c** pathologist
- d** oncologist
- e** physicst, rad-tech, dosimetrist

the

1%

rule

the
10%
rule

thank you

www.artiman.com