



## Science Fiction

- Captures Imagination better than reality
- Provides inspiration (albeit misguided at times)
- No matter how 'science-like' it may seem... it is still ultimately fiction
   (emphasis on Science or on Fiction)
- Fiction permits emphasis on human elements

# Some Science Fiction Essentials

- Creator seldom a scientist or engineer
  - Often not compatible with reality
  - At best highly improbable situations
- Leverages human emotions and desires (i.e. Human Destiny, The Meaning of Life)
- Intense Anthropomorphism: a limit on imagination? (in general, reality likely stranger than fiction)
- Optimized to sell books / screenplays: outreach

# Why Sci-Fi Influences Space Programs (vs. NIH, NSF, NIST, DoE...)

- Introduces a complex subject to the public, especially children who become decision makers equipped (only) with Sci-Fi concepts
- Space is optional anything is a basis for selecting a mission or technology goal (Moon, Mars, Station, Shuttle, Conestoga
- Gauge of what the public finds interesting
- Creates a plausible agenda of space: life, the universe and everything; not associated with terrestrial R&D

# Sci-Fi as Roadmap

- Reminder of Military implications
- Lure to try Space Commerce (manufacturing, tourism)
- Sometimes good technological directions (but how to tell which?):
  - Earth-like space stations
  - lunar habitation
  - robotic space exploration



### The Novel: Michael Crichton, 1990 The film(s) Steven Spielberg, 1993



AFP.

YAHOO! WEATHER: Check the latest forecast in your area

### Researchers aim to resurrect mammoth in five years



# Briggs and King Clone Tadpoles 1952

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#### Scientists 'to clone mammoth'

Russian and Japanese scientists are hoping to clone mammoths from what they think are the legs of the extinct animal discovered in Russia's northern Yakutsk region.

Specimens of the animal discovered last year have arrived at Kinki University's Gifu Science and Technology Centre in western Japan.

"The bone marrow, skin and muscle specimens, frozen in nitrogen liquid... Expo 2005 organisers want to display a look fine. We first have to confirm

mammoth

MNHN Bibliotheque Centrale - Artist's

impression of the prehistoric mammoth.

Japanese researchers will launch a project this

whether these are really of a mammoth," said the centre's president,

The DNA may be damaged and not good enough for cloning, as the remains are believed to be 200,000-300,000 years old, he said.

The scientists are planning to use elephant eggs in the cloning process.

Buzz up! 357 votes





by Shingo Ito - Mon Jan 17, 5:44 am ET

TOKYO (AFP) - Japanese researchers will launch a project this year to resurrect the long-extinct mammoth by using cloning technology to bring the ancient pachyderm back to life in around five years time.

The researchers will try to summer from the carcass research laboratory, the \

"Preparations to realise th leader of the team and a

University, told the ma

Magazine ch 1997





Neanderthal clues from mammoth

- 25 Jun 02 | Science/Nature
- Mammoths trek home 27 Nov 01 | England
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#### 1885

#### first cloned animals

Hans Dreisch seperated cells from two-celled sea urchin blastomers mechanically. Each cell grew independently and formed a separate, whole sea urchin clone.

#### 1902

Hans Speman (1935 Nobel Prize in medicine) conducted the first nuclear transfer experiment by splitting a two-celled salamander embryo into seperate cells. Each cell developed into a salamander.

#### 1903

Herbert Webber (US Dept. Agriculture) coined the word "clon".

#### 1928

Hans Spemann performed the first nuclear transfer experiment using salamander embryos.

#### 1952

Robert Briggs and Thomas King used nuclear transfer technology to clone from adult donor cells.

#### 1963

J.B.S. Haldane is credited to have coined the term "clone".

Tong Dizhou created the first cloned fish (asian carp)

#### 1973

by inserting Asian carp DNA into a European crucian carp, Tong Dizhou created the first interspecies clone

#### 1984

Steen Willadsen (British Agricultural Research Council) cloned a sheep via nuclear transfer technology.

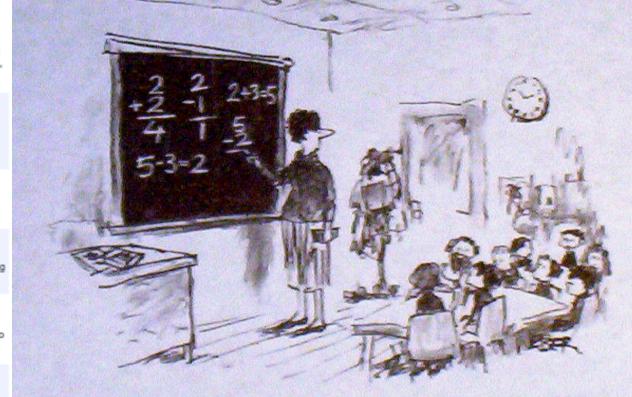
#### 1995

#### Megan & Morag:

July 1995 Scottish scientists clone the sheeps Megan and Morag from differentiated embryo cells.

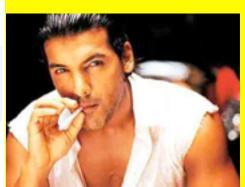
#### 1996

The first mammal was cloned from a cell of an adult animal. Ian Wilmut (Roslin Institute) created the sheep *Dolly*.



"Please, Ms. Sweeny, may I ask where you're going with all this"

Do we care about art, reality, science or which leads which?





Or about whether actors encourage kids to smoke and Contact helped fund NASA?





### Other Uses of Art?

Product Placements

- 012a
- Linking products to actors, authors
- Product ideas from art (clothes, interior design - Clockwork)
- Realities
  better than
  real
  Coke
  Diamonds
  Lauren



