

BLACK INVENTORS & INNOVATORS: NEW PERSPECTIVES



Session 3: Black Inventors and Innovators at Work

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My Roles

- IBM Master Inventor
- Software Engineer
- R&D scientist
- Data scientist
- Government Researcher
- Academic
- Executive
- Coach
- Serial Entrepreneur
- Human Rights Commissioner
- AAAS-Lemelson Invention Ambassador



CREATIVE





In a 2010 study of about 300,000 creativity tests going back to the 1970s found creativity has decreased among American children in recent years.

“Since 1990, children have become less able to produce unique and unusual ideas. They are also less humorous, less imaginative and less able to elaborate on ideas”.

Kyung Hee Kim,
Creativity Researcher
The College of William and Mary

Environment

- **People** - their biases, upbringing, and lived experiences.
- **Policies** - that lay out how they can lawfully operate.
- **Processes** - that dictate how things get done.
- **Institutions** - that re-enforce policies and people's perceptions.
- **Practices** - within those institutions that cement it all together.



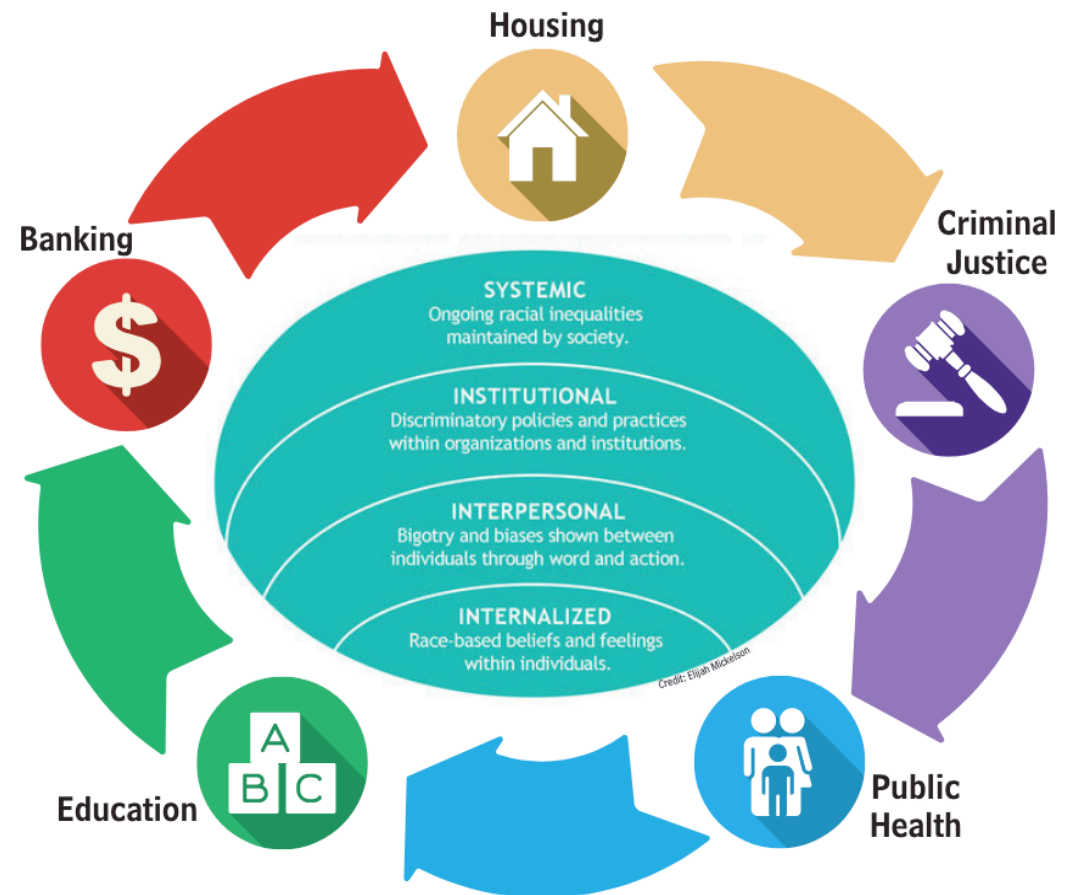
Foundations of the American Invention Environment

Institutional Racism

the systematic distribution of resources, power and opportunity in our society to the benefit of people who are white and the exclusion of people of color

Institutional Sexism

the systematic distribution of resources, power and opportunity in our society to the benefit of people who are white and male and the exclusion of women



Hard Truths

Your Innate Benefits = $f(\text{Your proximity to whiteness})$

**Your Visibility of System Inequities =
 $f(\text{Your proximity to whiteness})$**



US Census

The three-fifths compromise in practice through 1868, established that an enslaved person would be counted as three-fifths of a person.

“According to its constitutional mandate, the census does more than facilitate a body count; it also tells us whose body counts, and for how much.”

– Naomi Mezey 2003

(This instrument) Results in a “collective blindness [that] hinders the establishment of social facts, conceals inequality, and undermines the foundation of social science research, including that used in the design and evaluation of social policy.”

- *Invisible Men*, Becky Petitt, p3, 2012



US Patent & Trademark Office

The patent system simply was not available at that time to enslaved people — they were not considered American citizens, and the rights and provisions of the Constitution did not extend to them.

- Shontavia Johnson, [*America's Always Had Black Inventors - Even When the Patent System Explicitly Excluded Them*](#), 2017

There was and continues to be a consistently wide gap between the colorblind American patent system and certain groups of inventors, especially black inventors.

- Shontavia Johnson, [*The Colorblind Patent System and Black Inventors*](#), 2019



History of Black Invention

- Many ideas stolen from Black:
 - cotton scraper, Boyd Bedstead, steamboat propeller, ...
- History Lost
 - <https://invention.si.edu/lost-histories-african-american-inventors>

INVENTION	INVENTOR	DATE	INVENTION	INVENTOR	DATE
Air-Conditioning Unit	Frederick M. Jones	7/12/1949	Lawn Sprinkler	J.W. Smith	5/4/1897
Auto Fishing Device	G. Cook	5/30/1899	Lock	W.A. Martin	7/23/1889
Auto Gear Shift	Richard B. Spikes	2/6/1932	Lantern	Michael C. Harvey	8/19/1884
Blood Plasma Bag	Charles Drew	Approx 1945	Lubricating Cup	Elijah McCoy	11/15/1898
Bicycle Frame	I.R. Johnson	10/10/1899	Mail Box	Paul B. Downing	10/27/1891
Baby Buggy	W.H. Richardson	6/18/1899	Mop	Thomas Stewart	6/11/1893
Cable TV Booking Device	Joseph N. Jackson	7/25/2000	Motor	Frederick M. Jones	6/27/1939
Cellular Car Phone	Henry T. Sampson	7/6/1971	Peanut Butter	George W. Carver	1896
Chamber Commode	T. Ekin	1/8/1897	Record Player Arm	Joseph H. Dickinson	1/8/1918
Clothes Dryer	G.T. Sampson	6/6/1892	Refrigerator	J. Standard	7/14/1891
Door Knob	O. Dorsey	12/10/1878	Riding Saddles	W.D. Davis	10/6/1896
Egg Beater	Willie Johnson	2/5/1884	Rolling Pen	John W. Reed	1884
Elevator	Alexander Miles	10/11/1867	Shampoo Headrest	C.O. Bailiff	10/11/1898
Electric Lamp/Bulb	Lewis Latimer	3/21/1882	Spark Plug	Edmond Berger	2/2/1830
Eye Protector	P. Johnson	11/2/1880	Straightening Comb	Madam Walker	Approx 1905
Female Cycle Indicator	Joseph N. Jackson	2/8/2000	Stethoscope	Imhotep	Ancient Egypt
Female Cycle Predictor	Joseph N. Jackson	11/17/1998	Street Sweeper	Charles B. Brooks	3/17/1890
Fire Extinguisher	T.J. Marshall	10/26/1872	Stove	T.A. Carrington	7/25/1876
Gas Mask	Garrett Morgan	10/13/1914	Telephone Transmitter	Granville T. Woods	12/2/1884
Golf Tee	T. Grant	12/12/1899	Thermostat Control	Frederick M. Jones	2/23/1960
Guitar	Robert Flemming, Jr.	3/3/1886	Traffic Light	Garrett Morgan	11/20/1923
Hair Brush	Lydia D. Newman	11/15/1898	Tricycle	M.A. Cherry	5/8/1888
Insect-Destroyed Gun	A.C. Richard	2/28/1899	TV Remote Control	Joseph N. Jackson	3/28/1978
Ironing Board	Sarah Boone	12/30/1887	Typewriter	Burnage & Marshman	4/7/1885
Lawn Mower	J.A. Burr	5/19/1889	VCR Remote Timer	Joseph N. Jackson	10/14/1980



At Work in America in the 2000s

- Mindset that:
 - Questions me because inventors should not look like me
 - Tries to re-appropriate and claim my work as someone else's
 - Intentionally, and unintentionally, puts down
 - Has very little support for my efforts
 - Has very little understanding or empathy of my cultural context
 - That views me as an inferior "other"
- Practices that:
 - Consistently rates my work and performance as sub-standard; even while out-producing peers
 - Support marginalization and company exit



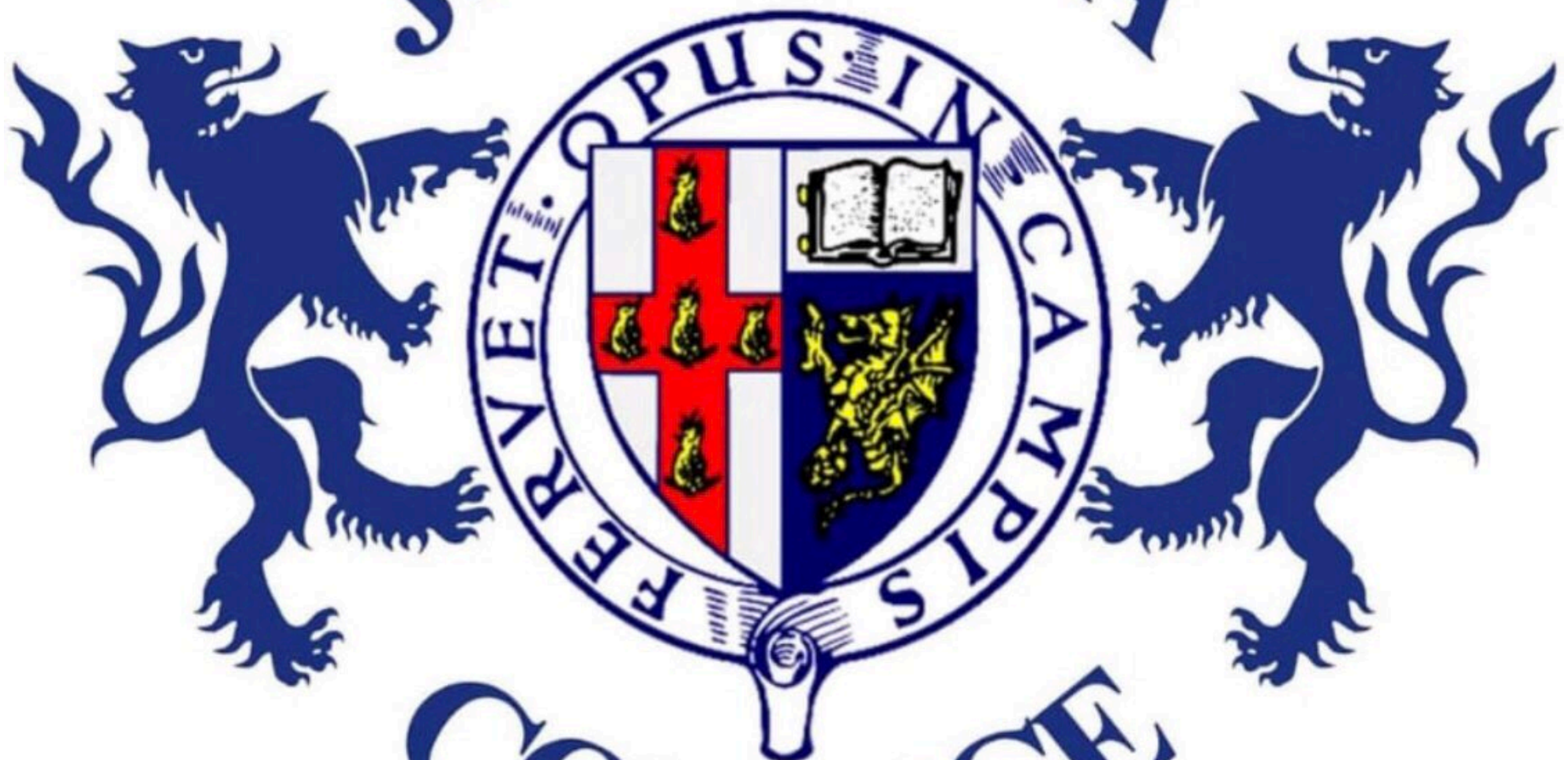
MY WHY - THE DRIVE BEHIND MY PASSION

Problem

Constraints / Necessity

Lived Experience

JAMAICA



COLLEGE

Invention:

The act of bringing things together in a novel way to create something that did not exist before.

Innovation:

The process of creating value by applying novel solutions to meaningful problems.

Technology:

The application of scientific knowledge for practical purposes.

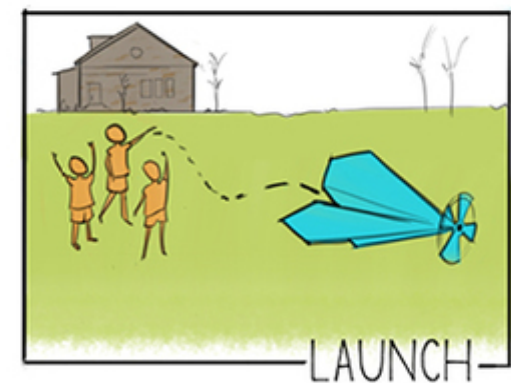
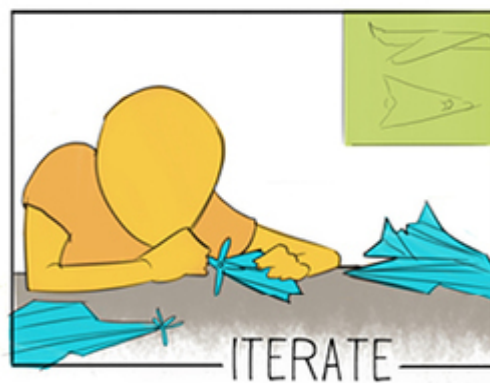
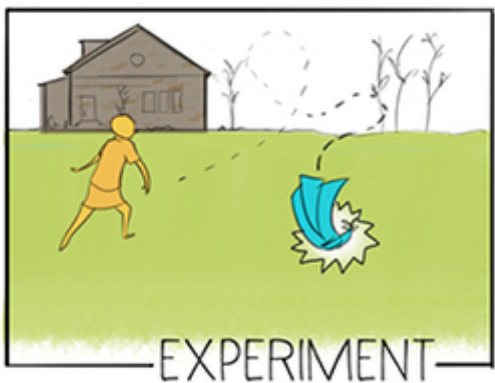
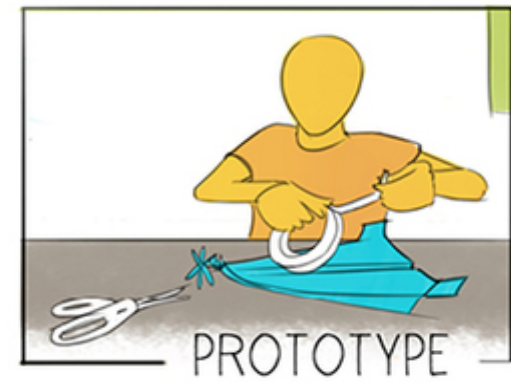
Patents

- **Twenty-seven (27) patent filed**
 - Data Privacy, Information Discovery, Information Traceability, Image and Video Abstraction, Data Ingest Optimization, Data Validation, Healthcare Security, Personalized Health Management, Social Services Optimization, Green Software Code Generation, Database Privacy Risk, Data Querying, Water Consumption Management, Decision Support, Public Relations and Reputation Mining, Privacy Score Creation and Management, Web Scraping
- **Twenty patents (20) published**
 - Healthcare Privacy, Web Content Retrieval, Energy Consumption Management, Green Emissions Trading, Natural Resource Monitoring and Problem Detection, Social Network Privacy, Text Document Segmentation, Non-Visual Web Browsing, Problem Management
- **One (1) in progress**
 - Long Term Care Discovery

Source: <https://www.tyronegrandison.org/patents.html>



Traditional View of Invention Process



Problem

Finding a long-term care facility for a senior relative is time-consuming, laborious, manual, and frustrating.

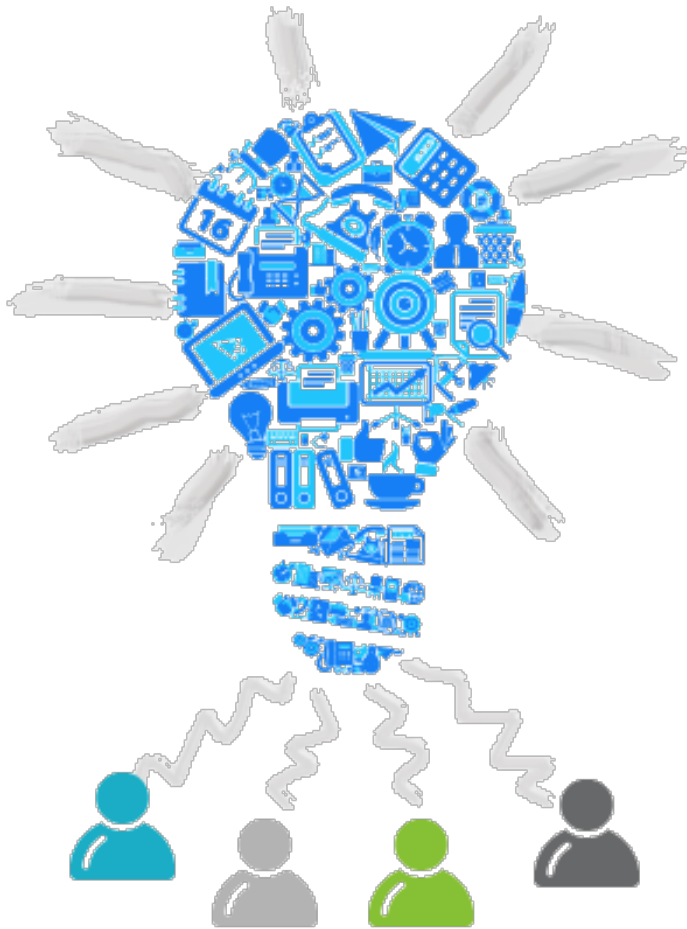
Constraints

- There is an existing referral model
- The long-term care provider space is not standardized
- Consumers do not initially understand the language and concepts
- Navigating processes involved in the application procedure is difficult for the consumer
- Industry is heavily regulated
- Payment management is thorny

Lived Experience



Steps



1. Get Clear On The Problem



2. Get Clear On Solution Attributes



3. Craft an Initial Solution



4. Get Feedback from Users



5. Iterate and Improve



6. Release Solution



7. Repeat Step 4 onwards

Final Product

The screenshot shows a search interface for long-term care facilities. At the top right, there are links for "Become a Participating Provider", "Sign Up/Log In", and "Help". The main search area is a white box with the following sections:

- Save more on long term care with thousands of deals made every day**
- WHERE**: A search bar with "Anywhere" entered.
- WHEN**: A dropdown menu set to "Long Term" and a calendar icon with "Anytime" selected.
- HOW MANY**: A section for "Residents" with a minus sign, the number "1", and a plus sign.
- LEVEL OF CARE**: Four icons representing "Independent Living", "Assisted Living", "Skilled Nursing", and "Memory Care". Below them is the text "Don't know your level of care?".
- MONTHLY BUDGET**: A range from "Minimum \$1,000" to "Maximum \$20,000" with a bar chart and a slider below it.
- Search**: A purple button at the bottom right of the search box.

Featured Long Term Care Facilities



Palazzo Cattolica
★★★★★ (3,368)

Assisted living facility in Baltimore, Maryland



Lakefront Manor Healthcare
★★★★★ (1,407)

Assisted living facility in Reno, Nevada



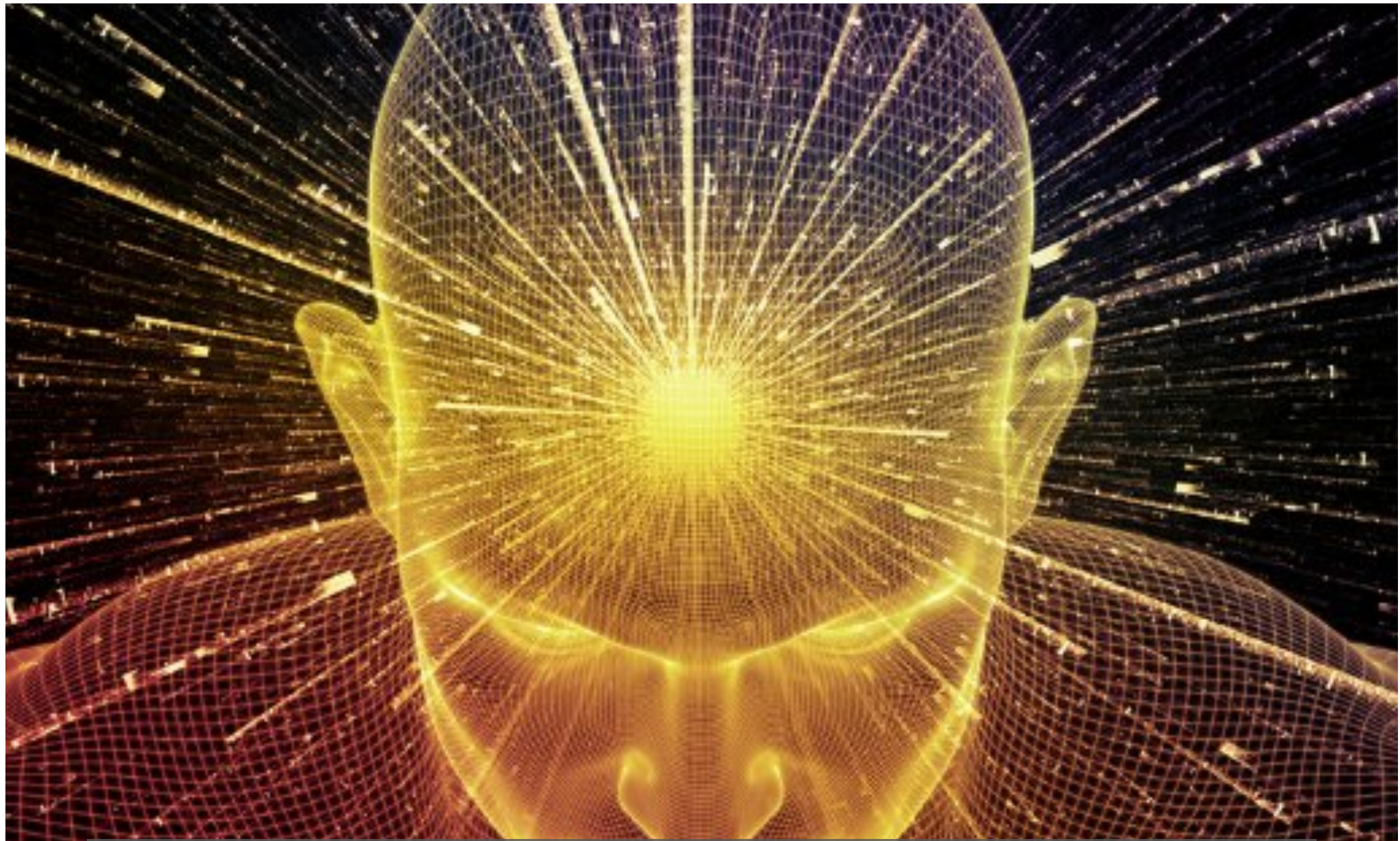
Carmel-by-the-Sea Manor House
★★★★★ (7,534)

Assisted living facility in Carmel, California



Pacific Heights Retirement Center
★★★★★ (7,534)

Assisted living facility in Seattle, Washington



Good News

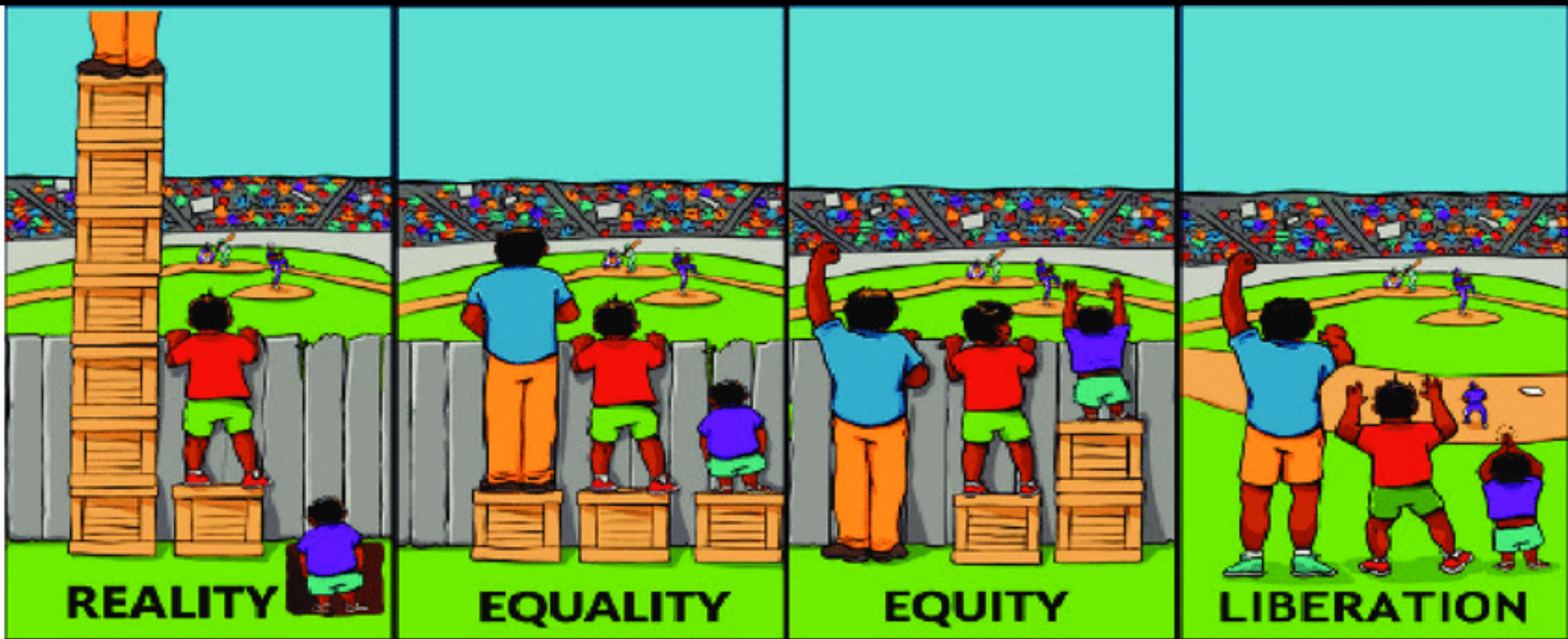
I am the sum of the lessons of my prior experiences

Past Challenges

People

Organizational
Practices





Source: Lynch, Shrehan & Sutherland, Sue & Walton-Fisette, Jennifer. (2020). The A-Z of Social Justice Physical Education: Part 1. Journal of Physical Education, Recreation & Dance. 91. 10.1080/07303084.2020.1724500.

Thank You

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