this man is Jean Baptiste Pierre Antoine de mon a Chevalier de la Marck. in 1809, 50 years before Darwin published the origin of the species, he wrote what is widely recognized as the first comprehensive theory of evolution his book “the philosophy zoologique” introduced the notion of an internal code within every living thing which when passed down through successive generations defined the physiological characteristics of a species at the center of Lamarck's theory laid what he called the “adaptive force”. he believed that the experiences of an organism during its life modified this internal code and upon reproduction, this modified version was passed down to its young whilst not biologically accurate and ultimately superseded by Darwin's theory of natural selection the epigenetic theories put forward by him are

beginning to find new homes in

unexpected places when we use

contemporary technology a trail of

information is created in the form of

data when analyzed it describes our

actions decisions

preferences movement and relationships

this codified version of who we are

becomes ever more complex developing

changing and deforming based on our

actions in this regard this ledger of

our data may be considered a Lamarckian

epigenome a constantly evolving

representation of who we are

[Music]

this is Bill Hamilton one of the most

significant evolutionary theorists of

the 20th century his work studying the

social structures of ants bees and wasps

had a profound effect on our

understanding of the role of genes in

social behaviors such as altruism he

believed and went on to prove that the

driving force behind evolution was not

the individual but the gene he stated

that the ultimate criterion which

determines whether a gene will spread is

not whether the behavior is to the

benefit of the behavior but whether it

is to the benefit of the gene in the

mid-1970s the British evolutionary

biologist Richard Dawkins built on the

work of Hamilton and others to

popularize the concept of The Selfish

Gene in his book of the same name he

introduced the notion of a gene which

whilst devoid of any motives or will

could be metaphorically and

pedagogically described as if it were in

this model the individual organism is a

transient carrier a survival machine for

the gene user-centered design principles

have dominated the world of computing

for many decades but what if we looked

at things a little differently what if

the ledger could be given a volitional

purpose rather than simply acting as an

historical reference what if we focused

on creating a richer ledger

by introducing more sources of

information what if we thought of

ourselves not as the owners of this

information but as custodians transient

carriers or caretakers initially the

notion of a goal oriented ledger may be

user driven as an organization Google

would be responsible for offering

suitable targets for a users ledger

whilst the notion of a global good is

problematic topics would likely focus on

health or environmental impact to

reflect Google's values as an

organization once the user selects a

volition for their ledger every

interaction may be compared to a series

of parallel options if one of these

options allows the ledger to move closer

to its goal it will be offered up to the

user over time by selecting these

options the users behavior may be

modified and the ledger moves closer to

its target

[Music]

as this line of thinking accelerates and

the notion of a goal driven ledger

becomes more palatable suggestions may

be converted not by the user but by the

ledger itself in this case the ledger is

missing a key data source which it

requires in order to better understand

this user in order to plug the gap in

its knowledge the ledger begins

searching for a device which delivers

the required data when used from this

list the ledger begins sorting the

options most likely to appeal to the

user in question in situations where no

suitable product is found the ledger may

investigate a bespoke solution by

analyzing historical data it is

increasingly possible to discern

qualitative information such as taste

and aesthetic sensibility which may be

used in the creation of a design

proposal with the advent of technologies

such as CNC milling and the emergent

possibilities of 3d printing a custom

object may be created to trigger this

users interest in this way the ledger is

able to plug gaps in its knowledge and

refine its model of human behavior

[Music]

user data has the capability to survive

beyond the limits of our biological

selves in much the same way as genetic

code is released and propagated in

nature by considering this data through

a Lamarckian lens the codified

experiences within the ledger become an

accumulation of behavioral knowledge

throughout the life of an individual by

thinking of user data as

multi-generational it becomes possible

for emerging users to benefit from the

preceding generations behaviors and

decisions as new users enter an

ecosystem they begin to create their own

trail of data by comparing this emergent

ledger with the mass of historical user

data it becomes possible to make

increasingly accurate predictions about

decisions and future behaviour as cycles

of collection and comparison extend it

may be possible to develop a species

level understanding of complex issues

such as depression health and poverty

our ability to interpret user data

combined with the exponential growth in

sensor enabled objects will result in an

increasingly detailed account of who we

are as people as these streams of

information are brought together the

effect is multiplied new patterns become

apparent and new predictions become

possible since the 1970s huge efforts

have been made in sequencing the human

genome today after many years of

research and billions of data points

that sequence is known by adopting a

similar perspective with user data we

may begin to better understand its role

just as the examination of protein

structures paved the way to genetic

sequencing the mass multi-generational

examination of actions and results could

introduce a model of behavioral

sequencing as gene sequencing yields a

comprehensive map of human biology

researchers are increasingly able to

target parts of the sequence and modify

them in order to achieve a desired

result as patterns begin to emerge in

the behavioral sequences they too may be

targeted

the ledger could be given a focus

shifting it from a system which not only

tracks our behavior but offers direction

towards a desired result we are at the

very beginning of our journey of

understanding in the field of user data

by applying our knowledge of epigenetics

inheritance and mimetics to this field

we may be able to make mental leaps in

our understanding which could offer

benefits to this generation to future

generations and the species as a whole

[Music]