

- Hoe digitale technieken de sociale evolutie versnellen.
- Hoe we onszelf kwijtraken aan De Reus.

*Een sfeerimpressie, met nadruk op de technische en evolutionaire achtergronden die leiden tot een nieuwe groupmind.*

Evert Mouw, 23 mei 2022

T.b.v. de “digitale detox” Amersfoort Meetup VPRO Tegenlicht.



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A 03:00 - 03:34 smart cities, dumb citizens

B 14:14 - 15:25 mensen worden robots

C 04:30 - 05:08 netwerkkintelligentie

Video online beschikbaar op [https://youtu.be/m\\_mbkQVMYFI](https://youtu.be/m_mbkQVMYFI)

# Algoritme: Floyd's kortste pad (1)

Wat is een algoritme nu eigenlijk? Hier ter illustratie Floyd's algoritme om het kortste pad te vinden tussen een aantal punten waarvan de lengte van de verbindende paden bekend is.

284 Dynamic Programming

Several observations need to be made about ... remarkably succinct, is it not? Still, its time efficiency is only ... sparse graphs represented by their adjacency linked lists, the traversal ... rithm mentioned at the beginning of this section has a better asymptotic efficiency ... than Warshall's algorithm (why?). We can speed up the above implementation of Warshall's algorithm for some inputs by restructuring its innermost loop (see Problem 4 in the exercises). Another way to make the algorithm run faster is to treat matrix rows as bit strings and employ the bitwise *or* operation available in most modern computer languages.

As to the space efficiency of Warshall's algorithm, the situation is similar to that of the two earlier examples in this chapter: computing a Fibonacci number and computing a binomial coefficient. Although we used separate matrices for recording intermediate results of the algorithm, this is, in fact, unnecessary. (Problem 3 in the exercises asks you to find a way of avoiding this wasteful use of the computer memory.) Finally, we shall see below how the underlying idea of Warshall's algorithm can be applied to the more general problem of finding lengths of shortest paths in weighted graphs.

**Floyd's Algorithm for the All-Pairs Shortest-Paths Problem**

Given a weighted connected graph (undirected or directed), the *all-pairs shortest-paths problem* asks to find the distances (the lengths of the shortest paths) from paths in an  $n$ -by- $n$  matrix  $D$  called the *distance matrix*; the element  $d_{ij}$  in the  $i$ th row and the  $j$ th column of this matrix indicates the length of the shortest path from the  $i$ th vertex to the  $j$ th vertex ( $1 \leq i, j \leq n$ ). For an example, see Figure 8.5.

We can generate the distance matrix with an algorithm that is very similar to Warshall's algorithm. It is called *Floyd's algorithm*, after its inventor R. Floyd [Floy62]. It is applicable to both undirected and directed weighted graphs provided that they do not contain a cycle of a negative length. (Of course, in the case of a directed graph, by a path or cycle we mean a directed path or a directed cycle.)

82 Warshall's and Floyd's Algorithms 285

DYNAMIC PROGRAMMING with  $n$

Warshall ( $A[1..n, 1..n]$ ) (8.8)

If get transitive closure from an adjacency matrix

$R^0 = A$

for  $k = 1$  to  $n$   $O(n^3)$

for  $i = 1$  to  $n$

for  $j = 1$  to  $n$

$R^k[i, j] = R^{k-1}[i, j]$  or  $(R^{k-1}[i, k] \text{ and } R^{k-1}[k, j])$

return  $R^n$

$R^0$

	a	b	c	d
a	2	0	1	0
b	0	0	0	1
c	0	0	0	0
d	1	1	0	0

use boxed lines to get  $R^1$  (8.9)

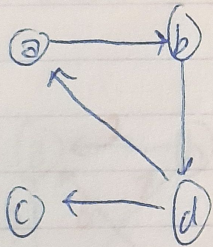
$R^1$

	a	b	c	d
a	2	0	1	0
b	0	0	0	1
c	0	0	0	0
d	1	1	0	0

etc. ...  $d^4$

FIGURE 8.5 (a) Digraph, (b) its weight matrix, (c) its distance matrix.

# Aantekeningen uit 2005; zie je de fout?



$R^0$

	a	b	c	d
a	0	1	0	0
b	0	0	0	1
c	0	0	0	0
d	1	0	1	0

$R^1$

	a	b	c	d
a	0	1	0	0
b	0	0	0	1
c	0	0	0	0
d	1	1	1	0

## garbage *in* = garbage *out*

Let op, dit algoritme is “statisch” of *deterministisch*; de resultaten zijn net zo goed als de kwaliteit van de invoer (data input). Het is geen “lerend” algoritme, het is een beetje “dom” en **heel gevoelig voor fouten in de invoer**.

Hoe lossen we dat op?

# Algoritme: Ant Optimization



Awan-Ur-Rahman

Apr 26, 2020 · 5 min read ★ · Listen

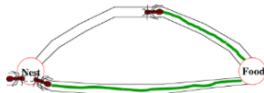


## Introduction to Ant colony optimization(ACO)




A Probabilistic Technique for finding Optimal Paths

Ant colony optimization(ACO) was first introduced by Marco Dorigo in the 90s in his Ph.D. thesis. This algorithm is introduced based on the foraging behavior of an ant for seeking a path between their colony and source food. Initially, it was used to solve the well-known traveling salesman problem. Later, it is used for solving different hard optimization problems.

After finding food, it carries some food with itself and returns to the colony. When it tracking the returning path it deposits pheromone on the ground. The ant following the shorter path will reach the colony earlier.



## Major Evolutionary Transitions in Social Insects, the Importance of Worker Sterility and Life History Trade-Offs

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The evolution of eusociality in social insects, such as termites, ants, and some bees and wasps, has been regarded as a major evolutionary transition (MET). Yet, there is some debate whether all species qualify. Here, we argue that worker sterility is a decisive criterion to determine whether species have passed a MET (= superorganisms), or not. When workers are sterile, reproductive interests align among group members as individual fitness is transferred to the colony level. Division of labour among cooperating units is a major driver that favours the evolution of METs across all biological scales. Many METs are characterised by a differentiation into reproductive versus maintenance functions. In social insects, the queen specialises on reproduction while workers take over maintenance functions such as food provisioning. Such division of labour allows specialisation and it reshapes life history trade-offs among cooperating units. For instance, individuals within colonies of social insects can overcome the omnipresent fecundity/longevity trade-off, which limits reproductive success in organisms, when increased fecundity shortens lifespan. Social insect queens (particularly in superorganismal species) can reach adult lifespans of several decades and are among the most fecund terrestrial animals. The resulting enormous reproductive output may contribute to explain why some genera of social insects became so successful. Indeed, superorganismal ant lineages have more species than those that have not passed a MET. We conclude that the release from life history constraints at the individual level is an important, yet understudied, factor across METs to explain their evolutionary success.



## Brave New World's Soma Explained (& Why The Society Relies On The Drug)

The society in the focus of Peacock's *Brave New World* constantly takes a drug called soma. Here's what it does and why the utopia relies on the pills.

BY KARA HEDASH

PUBLISHED JUL 17, 2020



***Brave New World*** focuses on a utopian society where everyone is happy, but to achieve that bliss, the citizens are conditioned to take a drug called "soma." The dystopian tale is based on [Aldous Huxley's classic 1932 novel](#) of the same name. Whereas Huxley centered on a futuristic setting called World State, the newly-released adaptation puts New London at the front and center.

New London is a city that serves as a "social body" where "everyone belongs to everyone else." The citizens are split into a caste system after being produced in a test tube. Society is conditioned from a very young age and raised to follow three strict rules: no privacy, no family, no monogamy. Though there are superiors to lead the community, the entire system is governed by an unseen force called Intra. Pleasure is the priority of New London and in order to balance happy emotions, the city provides a series of drugs.

*Robert M. Pirsig werd vooral bekend door de cult-klassieker “Zen and the Art of Motorcycle Maintenance” waar hij ook op promoveerde; “Lila” is hier een vervolg op.*

De biologische mens bedenkt net zomin steden en samenlevingen als de varkens en kippen de boer bedenken die hun te eten geeft. De kracht van de evolutionaire schepping ligt niet vervat in het stoffelijke. Het stoffelijke is niet meer dan een bepaald statisch patroon dat wordt opgeleverd door de scheppingskracht.

## Pirsig: Lila (2)

Deze stad is een hoger patroon dan een stoffelijk of een biologisch patroon dat mens wordt genoemd. Net zoals de biologie het stoffelijke voor haar eigen doeleinden gebruikt, gebruikt ook dit sociale patroon dat stad wordt genoemd de biologie voor eigen doeleinden. Net zoals de boer koeien verzorgt met als enig doel ze te verslinden, kweekt dit patroon menselijke wezens met als enig doel ze te verslinden.

Bezien vanuit het standpunt van een Metafysica van de Kwaliteit is dit verslinden van menselijke lichamen een morele activiteit, want het is moreler wanneer een sociaal patroon een biologisch patroon verslindt, dan wanneer een biologisch patroon een sociaal patroon verslindt. Een sociaal patroon is een hogere evolutievorm.

# Freeing Oneself from the Influence of Egregores

Mark Stavish (2018)


If we follow the train of thought expounded in this book, then we are faced with several questions, principally, “Can we ever avoid or escape the influence of egregores?” If we take the definition that **an egregore is a collective attitude or consciousness**, then they appear to be forever appearing whenever even small groups of individuals come together for any length of time or common purpose. If we take the more technical view that egregores are only those psychic collectives that are actually created and fed via ritual and with a specific purpose and that they have a preternatural intelligence at one end, then we miss the more dynamic and fluid reality of what constitutes “created” and “ritual.” It is very possible, and most likely, that the majority of egregores are born out of necessity—one might even say *accidentally*—and subsequently mature as formal mechanisms of acting, interacting, learning, and survival are established, not unlike other living organisms.

## Breincircuits volgens Leary (1)

Volgens Timothy Leary evolueren we zelf ook mee. Zodra we andere planeten gaan koloniseren krijgen we betere toegang tot de hogere bewustzijnsstructuren.

Volgende slide: *Leary's 8-brain model – table from The Tek-Gnostics Archives.*

## Breincircuits volgens Leary (2)

			
CIRCUIT	DENDRITIC FUNCTION (Input)	CELL BODY FUNCTION (Integrative)	AXONIC FUNCTION (Output)
8) Neuroatomic	Cosmic Consciousness	Cosmic Engineering	Cosmic Fusion
7) Neurogenetic	DNA Awareness	DNA Engineering	DNA Fusion
6) Neuroelectric	ESP Precognition	The Neurologician (the Shaman)	The Conscious Circle of Humanity
5) Neurosomatic	Hedonic Passivity	Hedonic Engineering (Yoga)	Hedonic Synergy (Tantra)
4) Domestic (Socio Sexual)	The Adolescent (Barbarian Bands)	The Parent (Patriarchal Civilization)	Centralized Socialism (Hive-Unity)
3) Laryngeal- Manual (Symbolic)	The Learning Child (Paleolithic)	The Skillful Child (Neolithic)	The Creative Child (Bronze Age)
2) Emotional-Territorial	The Toddler (trickster mammal)	The Fighting Child (predator mammal)	The Political Child (pack-bonding)
1) Bio-Survival	The Newborn (unicellular consciousness)	The Demanding Infant (marine consciousness)	Mother-Child bonding (amphibian consciousness)

Uit *Kleine filosofie van de digitale onthouding*, pag. 74:

Hoezeer de onbegrensdeheid van het virtuele zowel bevrijdend als beklemmend werkt[! . . . Zie] McLuhans matra dat elke technologische extensie tevens een amputatie betekent. De lichamelijke bevrijding en het gebruiksgemak die inherent zijn aan ontlifde smartphone-ervaringen, kunnen evengoed knechtend en ongemakkelijk uitpakken. De fysieke onthechting, de mogelijkheid onafhankelijk van tijd en ruimte te handelen, maakt de scrollende sociale netwerkmens gevoelig voor onvoorziene en schurende 'real life' situaties. Dat volgens verschillende onderzoeken de interesse voor een schurende aangelegenheid als seksuele interactie afneemt – een trend die wereldwijd gaande is en die zowel voor jongeren als volwassenen geldt –, past bij dit tijdsbeeld.

# Facebook's algo



**Evert Mouw**

April 24 at 2:51 PM · 🌐



Facebook geeft me erg regelmatig dit soort reclames in mijn feed. Hun AI heeft een paar dingen wel goed: [1] ik hou wel van af en toe een videogame, [2] ik hou van knappe dames, [3] ik hou van Viking fantasie thematiek. Toch zou ik deze videogames niet spelen want ik hou meer van RTS (AoE, DoW) en koop eigenlijk nooit meer videogames (andere prioriteiten). De AI van Facebook kan dus nog iets beter. Maar goed, ik heb een bloedhekel aan reclames, en als ik dan toch reclames moet ondergaan dan maar liever iets wat het oog verdragen kan. Maar nog liever gewoon geen reclame.



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- [Digitale Detox](#). VPRO, 24 jan. 2022. Ze zien via [NPO Start](#).
- Kleine filosofie van de digitale onthouding. Hans Schnitzler, 2017.
- Introduction to The Design & Analysis of Algorithms. Anany Levitin, 2003.
- [Introduction to Ant colony optimization\(ACO\)](#). Awan-Ur-Rahman, 2020.
- [Major Evolutionary Transitions in Social Insects, the Importance of Worker Sterility and Life History Trade-Offs](#). Bernadou, Kramer and Korb, 2021.
- [Brave New World's Soma Explained](#). Kara Hedash, 2020.
- Lila. Robert M. Pirsig, 1991. ([Fragment](#).)
- Egregores. Mark Stavish, 2018.
- Eight-Circuit Model of Consciousness. Timothy Leary, 197x – 198x; zie o.a. het [Wikipedia lemma](#) en [The Tek-Gnostics Archives](#).



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