

OCKHAM'S RAZOR

SECOND LUSTRUM: OCKWARTS

HOW TO WIN A NOBEL PRIZE

TASTE TEST: PEPERNOTEN

...AND MUCH MORE!



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BOARD

Dear reader,

Let me start by wishing you the warmest and loveliest start of the new academic year! Hopefully you are all well accommodated again to the study environment after the summer break and ready to make this another successful year.

Although weather has been rather confusing lately, as I am writing this with a steaming cup of tea at my chest, the endless rain has finally set in, and perhaps soon we will also get to enjoy a lovely snowy Christmas. However, one thing I know for sure, and that is that the coming few months will be cozy all the way. Why? Because we, as the new board of H.V. Ockham, will be waiting for you in the Ockham room to fill you with October-festivity, Halloween spookums and Christmas joy.

A new board you say? You haven't heard? Or maybe you did? Either way, if you want to know more about us and what we could mean for you, read on through this wonderful edition of the Razor, beautifully crafted by our dedicated Magazine Committee, and perhaps you will find another letter written by us...

Now, let me hold you up no longer, and read on. Once again, we wish you a great academic year, excellent grades, and of course many cozy months to come.

See you soon, in the Ockham room (that rhymes),

Kenneth Weisbeek

Chairman of the 11th board of H.V. Ockham

On behalf of the 11th board of H.V. Ockham

Dear reader,

The new academic year has started and everyone has slowly found their way back into their student routines. Not only will we be bombarded with deadlines, assignments, tests, reports and projects for another year, most of you reading this will also have taken on the extra challenge of participating in the Honours programme. Therefore, let me start this editor's letter by wishing you all a prosperous academic year.

You are currently holding your own (digital) copy of Ockham's Razor. Together with all writers and editors we have worked hard to create this new edition. In this edition you can – among other things – read about the upcoming lustrum. You can get to know the Dean of the Honours programme. You can read a review of one of the most thought-provoking tv-series ever. You can learn how to cook some typical Dutch food. And you can enjoy some interesting columns.

At the end of this editor's letter, I would like to thank all writers and editors for their hard work and dedication over the last years. I am proud to have been able to contribute to the creation of several editions of Ockham's razor as editor in chief, but all good comes to an end. This edition of the Razor will be my last as editor in chief. I am confident that my successor will do a great job in managing the magazine and I wish them good luck.

Have a pleasant read!

Kind regards,

Leon Smook
Editor in Chief

EDITORIAL

Introducing Our Dean: **JOOST KOK**

Joost Kok has been appointed dean of the Department of Electrical Engineering, Mathematics and Computer Science (EEMCS) since 2018. Currently he is also acting as the dean of the Honours programmes, a task he enjoys very much. As a professor of Computer Science, Professor Kok conducts research in the field of applied data science.

Before coming to the University of Twente, he was already a professor of Fundamental Informatics and a professor of Medicine at Leiden University since 1995. He previously worked at VU Amsterdam, Utrecht University and Abo Akademi university in Finland, among others. He has supervised more than 70 PhD theses and published over 170 articles.

Joost Kok conducts research and provides advice on data science (information processing and analysis) in a variety of areas. Medicine, psychology, music, sport, traffic, share trading: these are but some of the many fields that collect and analyze large quantities of data (numbers, text, images, graphics, audio and much more) in order to achieve their goals. Big data is everywhere. Joost Kok: 'Take large supermarket chains, for example. They register countless factors in their stores: the temperature, when and how many people look happy, and so on.'

Computers use this kind of data to calculate what a manager can change in the store in order to sell as much as possible.' IBM estimates that 2.3 trillion gigabytes of data (business and private) are created worldwide each day. 'Processing, analyzing and making this data findable – what is known as data science – throws up all sorts of challenges,' Joost Kok explains. 'To begin with, all the data you have collected can contain errors. What can you do about that? There are also limits to the capacity of the computers that need to store the data and make the calculations necessary to analyze it. The main thing is to ensure that the computer calculations are as smart as possible. What we do is battle the complexity of data and try to link different types of data, such as images and text.'

He is currently working on a possible new specialization at the UT: sport and exercise. And for that, Kok is working on a multi-million project, in which the UT has a big finger: Sport Data Valley. The possibilities in the field of sensing and big data – in other words, creating, bundling and processing data – are enormous. This type of digital research infrastructures are



Prof. Joost Kok, dean of the Honours Programme.

a subject of research itself and can be used in many other fields. Currently we are also using these digital research infrastructures for biodiversity and for research on materials.

This sounds nice, but almost all of his time he is nowadays busy with managerial tasks. 'I see this as a new phase, being responsible for a large whole. Making connections, inside and outside of the faculty.'

He is proud to be the dean of the Honours programmes. 'The Honours programmes offer our students an opportunity to challenge themselves both academically and socially and develop their unique talents in an interesting community. There are many opportunities to connect to other activities and we are currently thinking about a UT-wide talent program.' ■

GROUP PROJECTS

The Eternal Struggle

By Eline Uiterweerd

Group projects. We've all been there, right? Especially at the University of Twente, students are confronted with projects. To paraphrase the UT's website, the Twente Education Model (TOM) means challenging themed project education. By forming multidisciplinary teams, students learn to look "beyond the boundaries of your own field of study" and to "look at the assignment at hand from several different perspectives". Sounds beautiful, doesn't it?

Nah. If you are in any way familiar with group work, you know that certain types of project group members can make or break a project.

Usually, things start off all great in a project group. Whether you were formed randomly or on a voluntary basis, you and your team members get together and WhatsApp groups and shared Drive folders are created. After all, communication is key – what could possibly go wrong if you have achieved such a (perceived) degree of organisation?

It is now eight weeks later. The end of the module is near and stress levels are plummeting. You are sitting behind your desk at 3 AM, vigorously typing and editing a chaotic document which appears to be a project report. Your hands are shaking from all the energy drinks you have consumed throughout the night, while you struggle to keep your eyes aimed at your screen. In the meantime, you are probably cursing your project group members who did not perform their tasks well, or worse, did nothing at all.

If this scenario sounds somewhat familiar to you, you might fall into the category of Control Freaks. Over time I have started to notice that many honours students (including myself) are part of this group. Usually, the Control Freaks can be recognised by their tendency to plan meetings EVERY single week (possibly more often) to check if everything is going OK, their behaviour in Google Docs (i.e. re-writing entire parts of other people's work) and their aggressive behaviour in WhatsApp groups ("Heey,

did everybody upload their pieces yet?" - sent at 2:36 AM). Not always the most relaxed group member, but admittedly the one that makes sure the group doesn't fail (at least, that's what they think). This type of project group member is not to be confused with what I like to call the Busy Beaver. This person is very busy. They have full schedules, are often unavailable due to other meetings – did I mention they are busy? Truth is that more than often, these people are actually pretty lazy. They don't do their work properly or way too late, but "that's because of their busy schedules, this week was just crazy"!

Whereas the Busy Beaver still finds an excuse for not doing what they're supposed to do, the Ghost just simply never shows up. You've seen this person once in the first week of the project, but they seem to have vanished. They do not come to meetings, do not respond to texts – do they even exist? Did they die? Were they abducted by aliens? Who knows.

Then there's the Clueless Fool. They literally know nothing, but they try so hard to contribute to the project while they keep feeling guilty – you actually feel sorry for this person. Most of the time, the Clueless Fool gradually switches to the role of Cheerleader. This is the person that does not really contribute to the project itself, but helps the other team members in other ways, such as correcting spelling mistakes or getting everyone coffee during work sessions.

At last, we have the Pessimist. The Pessimist is your typical source of negativity. Brace yourselves for constant nagging about the project, the team members and the entire universe. Being a perfect "Captain Hindsight", this person begins many of their sentences with "We should have...". Pretty useless.

If you recognised yourself or one of your current project group members in this article, don't worry – it happens to all of us. Good luck with your future projects, and let's hope you won't have to deal with any Busy Beavers or Pessimists next time! ■

WINTER IS COMING

A SONG OF DUTCH CUISINE... BY LEON SMOOK

Dutch cuisine. These two words are generally not found together, and even if they are found together it is usually to denote the lack of its existence. Nevertheless, winter is coming and this means that the primary season for Dutch cuisine is presenting itself. Its wholesome, hearty, soul-feeding food can be cooked again. In this article, two typically Dutch recipes will be presented which are sure to wow your Dutch flatmates. These recipes are *hutspot met worst* and *snert* (or *erwtensoup*). Both dishes are simple to make (although they vary in time investment) and are perfect for cold winter days. Enjoy!

HUTSPOT MET WORST

Hutspot is a special variety of stamppot and is said to be inspired by food remnants that were left by the Spaniards after the Siege of Leiden in 1754. This dish is traditionally eaten in Leiden to celebrate and remember the end of this siege on the 3rd of October.

Ingredients (for 4 people)

1 kg of potatoes; 750 g of carrot; 300 g of onion; 400 g of *braadworst* (or any other sausage); 50 g of butter; 100 mL of full-fat milk; bay leaf; nutmeg; garlic powder; pepper and salt.

Recipe

Peel the potatoes, carrot and onion. Cut potatoes into pieces of approximately equal size and place in a large pot with several centimeters of cold water. Grate or finely cut the carrots. Cut the onions in half and slice into half-rings. Bring water to a boil and add the bay leaf. Place the carrot and onion on top of the potato and place the lid on the pot. Boil/steam until the potatoes are done or when you encounter no resistance when inserting a fork or knife into the potato. In the meantime, fry the sausage until cooked through. Drain the potatoes and remove the bay leaf. Warm the milk. Mash the potato with the carrot and onion using a potato masher. Mash or stir in the butter, warm milk and ½ a teaspoon of nutmeg and ½ a teaspoon of garlic powder. Season to taste with salt and pepper. Serve with the sausage.

Vegan variation: use margarine instead of butter and a nut- or grain-based milk instead of full-fat milk. Replace the sausage with a protein source of choice.

SNERT (ERWTENSOEP)

Snert is a hearty and filling meal soup that is perfect for a winters' day. It is based on split peas and intended to provide energy after a full day of work.

Ingredients (for 8 servings)

500 g of split peas; 400 g of pork chop; 400 g of celeriac; 3 firm potatoes; 300 g of carrot; 2 onions; 2 leeks; 2 bay leaves; 40 g of celery; 250 g *rookworst* (if not available, Frankfurters may work); pepper and salt.

Recipe

Rinse the split peas. Add split peas and pork chops to a large pot with 2 L of water with 1 tablespoon of salt. Bring to a boil and simmer on low continuously removing the foam from the surface during 30 minutes. Peel the celeriac, potatoes, and carrots. Cut in around 1cm cubes. Peel and dice the onions. Clean the leeks and cut into strips. Add all vegetables to the pot and boil for 90 minutes. Stir regularly. When the peas are cooked, the soup is done. Remove the pork chop from the soup, and cut into pieces. Cut the rookworst into slices. Add the meat back to the soup and remove the bay leaves. Chop the celery and add to the soup. Heat for a few more minutes and season to taste with salt and pepper. ■

A prime example of authentic, home-made Dutch 'hutspot met worst'. Trust me, it tastes better than it looks!



PINNING CEREMONY

By Atis Kazaferi and Marie-Laure Snijders

On the 2nd of July this year, all graduates of the Science, Design, Processes of Change, Mathematics and Philosophy tracks of 2018 cohort received their honours pin and diploma during the Pinning Ceremony. Alongside the students, a lot of the teachers, track coordinators, Honours Office and staff that helped us through our honours time were also present. This included our former Dean Jennifer Herek and our current Dean Joost Kok. In addition, speeches were made by Nelleke van Adrichem and Wouter Keijser, as well as presentations by a student from every track on their experiences during the past year and a half. Halfway through, there was a musical intermezzo provided by Kenneth Weisbeek and Annemarte Visscher, both from the Science track, who shared their talents on the piano and violin. Even our own association was represented by our former Commissioner for Internal Affairs, Eline Uiterweerd. After everyone in the room finally had an idea on what we had been doing during our honours time, the students were asked to receive their pin and diploma. Of course, we wanted to show some pictures of this nice event with you to look back upon (or to use as motivation, good luck guys!). ■



Top left: Eline Uiterweerd tells the audience about H.V. Ockham. Top right: all graduated honours students of 2018-2019 with Joost Kok. Bottom left: musical performance by Annemarte Visscher and Kenneth Weisbeek. Bottom right: the infamous pins.



BLACK MIRROR

A Review by Marie-Laure Snijders

It is a nice June day when we are meeting with our lovely committee and start brainstorming possible article ideas for this first Razor. It is that summer's day when one of our members (who shall not be mentioned in this article) has the terrible idea that I should watch and review a Black mirror episode. Naturally, I tried to respectfully object to this duty and vote to watch an uplifting Disney movie instead, but after months of fearful anticipation I was finally forced to watch the world's leading tv series in depression and existentialism. Lucky me. Thankfully however, Eline has graciously offered to join me in watching, but my gratitude for her company quickly faded away once she suggests that not only should we watch a Black mirror episode, but we should watch the one that is rated "most scary/disturbing", otherwise called season 2 episode 1 "Be Right Back". Thanks a lot, Eline.

I have to say, overall speaking, this episode was not what I expected. It was worse. In fact, it was so weird that half-way through I looked up the ending just so I could tell Eline "it will get weirder" every 5 minutes. I guess this is also why I am not sure how to review this episode, because no matter how I write it, I don't think I can ever do its profound creepiness justice. So just like the episode, this review will consist of my random notes throughout the episode. Warning: spoiler alert (although this episode is so weird you will probably want to have some information going in).

The episode starts with a couple that moves into the guy's creepy countryside house, where he tells the lovely story of how his mother would deal with everyone in the family dying by hiding their photographs on the attic. So yes, we are off to a good start. Of course, the boyfriend (apparently called Ash) dies within the first few minutes of the episode and turns to... well you know. This episode has already made me dark. After burying him, the main character (whose name I had to google

after 13 minutes because I was actively avoiding what was going on but who is apparently called Martha) is understandably a bit down. And by down, I mean she is randomly shouting at her friend Sarah who is innocently suggesting some kind of Ouija board thing to help her talk to Dead Ash. Martha also starts throwing up a lot, because of course she cannot just have a dead boyfriend without also bearing his child. I am not sure what I was expecting. In the meantime, Sarah has decided to sign Martha up for the online Ouija thing, which is basically

an algorithm that lets you pretend to be chatting with the deceased person.

After calling her friend to shout that she will never do something that weird, she immediately starts chatting with Algorithm Ash, and it just kind of spirals from there. The algorithm starts calling her and uses Dead Ash's voice. Martha tells Algorithm Ash she is pregnant with his child. They go for long hikes near a suicide cliff while they call. Normal grief processing things.

After this, Martha decides to up the notch with the creepiness and buys a build-it-yourself-dead-boyfriend starter kit which grows in the bath (like an expandable water toy) and which looks and sounds like Dead Ash. After the assembly is done (which took less time than putting together any IKEA closet), Martha and Creepy Ash start... dating, I guess? She probably kind of has to after going all Frankenstein on him. I will spare you all the details of the dating part, mostly because I don't want to go back and re-watch it.

You would think that the entire 'living-with-and-dating-an-android' in itself would somehow be enough reason for Martha to stop, but in the end it is Creepy Ash's inability to pretend to breathe and to close his eyes when she sleeps that apparently crosses the line. However, just like a wireless landline phone, Creepy Ash is unable to be further away from either Martha or the bathtub where he was born (or spawned?), so she can't send him away. He does try to leave the house because he does not understand what she wants. Eline says that he is "[...] basically just like every man", which is not the type of reflection on society I was expecting from this episode. Naturally, Martha's solution to all this is to take him back to the suicide cliff and tell him to jump. She then gets mad that he, a programmed robot, just follows her instruction and walks to the edge. In fact, she gets so angry that the episode skips several years to reveal that Martha did in fact get a daughter. And of course that Creepy Ash is now living alone on the attic where real Ash's mother used to hide the photos of family members who died. The end! ■

DO YOU ENJOY WRITING ABOUT SERIOUS STUFF OR ENTERTAINING NONSENSE?

Do YOU think Comic Sans is a crime against graphic design?

ARE YOU A TOTAL GRAMMAR NAZI?

WE'RE LOOKING FOR YOU!



Yes, you!

The **Magazine Committee** is looking for new writers, layout editors and copy editors. So if you have a passion for writing or graphic design (or if you want to improve your writing and layouting skills), do not hesitate to send an email to:

magacienmembers@hv-ockham.nl

Feel free to join one of our meetings, and perhaps the next edition will feature one of your interesting articles or your amazing layout!

Is writing not really your thing, or do you actually think of Comic Sans as a beautiful font? Don't worry, we have numerous other committees that are looking for new members. The **Activities Committee**, **Symposium Committee**, **Technical Committee**, **Drinks Committee** or brand new **Acquisition Committee** might be something for you!

If you are interested in joining or knowing more about these committees, feel free to send an email to board@hv-ockham.nl!

How To...

WIN A NOBEL PRIZE

On the Role of Brilliance

By Guido Ritsema van Eck

Recently, I have been wondering a great deal about how important advances in science are made. Specifically, I have been wondering about the people involved in them. Do the books and equations we still study and discuss today bear the names of peerless geniuses, or those of “merely” capable scientists who happened to be studying the right thing at the right time? It is easy to imagine the former; when we think of great scientists, we quickly think of the eccentric professor, passionate about his research to the point of obsession, standing in front of a blackboard full of incomprehensible symbols and diagrams.

Albert Einstein (perhaps justifiably) comes to mind. On the other hand, as many of us know first-hand, science is rarely plucked from thin air. Novel theories are generally the result of the refinement, adaptation and synthesis of large amounts of preceding work. In this sense, our revered scientists may not be the giants atop whose shoulders we metaphorically stand, but rather the top of a many-layered human pyramid. After all, the most notable works of science tend to be those that answer fundamental questions of an existing field. It does not seem strange to think that, when such research bears fruit, it is not because of the brilliance of the scientist, but because said scientist has the luck of being the person to finish his line of inquiry.

To return from the realm of abstraction and get back to the real world: Let us, entirely hypothetically, say that I am about to graduate, considering a career in science, and wondering what it will take to get my name in the textbooks. Time for a case study! Our subject will be Johannes Diderik van der Waals, the Dutch thermodynamicist. First of all, I can hardly imagine a better example of a celebrated scientist than a Nobel laureate. Secondly, I will not deny a certain pride in my fellow Dutchman. Lastly, and perhaps most importantly, Van der Waals is one of the few Nobel laureates with whose work I am very familiar.

Johannes Diderik van der Waals was born in 1837 in Leiden. He started his career as an elementary school teacher, but studied mathematics and physics to become a secondary school teacher in these subjects. While he

wanted to, he could not enroll at the University of Leiden as a student, as he lacked education in Latin and Greek. When a new law made it possible for him to receive special dispensation for this, he took the qualification exam for doctoral studies in mathematics and physics. His doctoral thesis, titled *Over de Continuïteit van den Gas- en Vloeistoftoestand* (On the continuity of gas and liquid states) introduced most of the concepts that would win him a Nobel prize in 1910.

From previous work by Boyle and Gay Lussac, the ideal gas law was known at the time: an equation that describes the way pressure, volume and temperature are related in gases. This equation states that $PV = nRT$, where P represents pressure, V represents volume, n is proportional to the amount of gas, R is a constant, and T is the temperature. The results of this are fairly intuitive; for example, if the temperature is kept constant, increasing the pressure on a gas causes its volume to shrink. However, this equation is based on two major assumptions; first of all, that individual particles of the gas do not take up any space, and secondly that particles in a gas are so thinly dispersed that they do not interact with each other. Based on experimental results that deviated from this theory, Van der Waals realized that both of these assumptions are, in fact, faulty. The volume of a gas atom or molecule is very small, but cannot be neglected entirely, and the particles in a gas generally weakly attract each other, slightly lowering the effective pressure. This led Van der Waals to formulate an adjusted version of the gas law, known as the Van der Waals equation. This equation turned out to provide a much more accurate description of the be-

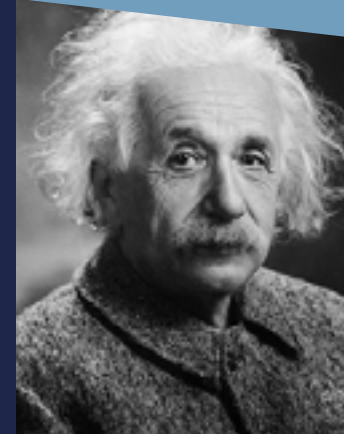
haviour of gases, and even predicted a large increase in the pressure at very low volumes; evidence of the transition between gases and liquids.

At the time the existence of atoms and molecules was controversial; some scientists rejected their existence entirely, and others thought of them as a useful abstraction, but not ‘real’ things in any sense. While in hindsight, it is easy to decide that Van der Waals with his correction for the particle volume must have been ahead of his time, his understanding of microscopic particles can be traced back to earlier work as well. The article *Über die Art der Bewegung, welche wir Wärme nennen* (On the nature of the motion we call heat) by Rudolf Clausius, which Van der Waals read during his studies, is often cited as a major influence on his thinking. In it, Clausius formally describes heat in terms of the motion of microscopic particles. Once again, we may wonder: was Van der Waals a singular genius, coming up with a revolutionary theory on his own, or did he simply complete the path others had already staked out? Of course, both of these statements are unhelpful absolutes. However, it is clear that we cannot dismiss the role of prior research in great discoveries.

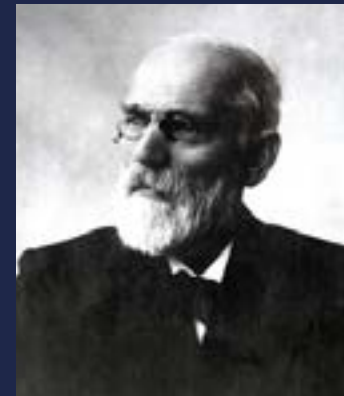
Looking at the list of Nobel laureates in the natural sciences, we see a great many co-winners, who usually worked off one another’s ideas to lay the groundwork for an entirely new field of science. Clearly, this can be taken as a sign of the importance of collaboration and the cross-pollination of ideas. As a more cynical alternative, we can also see this as the surest road to a Nobel: Find someone brilliant and innovative, read everything they publish, and become the second contributor to a new field of science. ■



Albert Einstein is probably one of the first faces you picture when thinking of famous (stereotypical) scientists.



J.D. van der Waals, the Dutch thermodynamicist who was awarded the Nobel Prize for Physics in 1910.



The preface to Clausius’ article, *Über die Art der Bewegung, welche wir Wärme nennen*.



Introducing THE 11TH BOARD

By Kenneth Weisbeek

Hello there dear reader!

I am Kenneth Weisbeek, the chairman of the 11th board of our association: H.V. Ockham. Let me tell you a little about our association, us and more importantly about what we can do for you!

As you may or may not know, for our loyal readers vary from both the oldest fossils to the youngest new recruits, H.V. Ockham was established in 2009, about 10 years ago. Since then every board has contributed and the association has undergone great changes each time. We are a diverse bunch, unique amongst study associations, multidisciplinary, with a great variety of interests and tastes to represent.

Throughout my Honours Programme and beyond, I have sought to meet as many members of the Honours Community as possible: Bachelor students, Master students, Alumni, of every track. I have seen the diversity that our community represents and came across that particular mindset that seems to be present in every Honours student again and again. I realized how awesome our community is and want to ensure we all get to know each other, as we deserve to enjoy the Honours Programme and our future not just with the friends we already had, but also with the many new friends that I made and you will make within the Programme and the association of H.V. Ockham!

Therefore, we, the 11th board, and H.V. Ockham want to ensure none of these awesome personalities are left out. We can provide you with a plethora of opportunities and support. This includes:

- Helping you improve your Honours education through close collaboration with the Honours Office, the governing body of the Honours Programme, and supporting specifically your interests! Drop by any of our board members at any time regarding this matter (or any other matter of course).
- Providing you with important professional development and opportunities, such as bringing you in contact with companies in search of excellent students, through various events such as lunch lectures, speed dating, symposia / conferences, and even a multi-university Thinktank event in Wageningen.
- Speaking of inter-university collaboration, we will provide you with ample opportunity to network

with the Honours students of other universities as well as have a lot of fun with them! Think of sharing the Batavieren race with Nijmegen or attending a conference, themed *Homo Deus*, in Eindhoven for Honours students all around the Netherlands (keep an eye out for this event on the 20th of December).

- And last, but not least, through H.V. Ockham and its various open and friendly committees, you will be provided with ample fun activities to get to know your community, both student and teacher alike. Whether you like our drinks in the Technobar, games or movie nights in the Ockham room, the upcoming Lustrum themed *Ockwarts* (skip to page 20-21 for more information!), or a 5-day study trip in May, there will be something for everyone!

If you haven't met us yet, we highly recommend you drop by our tidy, cozy Ockham Room! It's currently located in the Citadel H209, but will soon move to a brand new, prime location in the Technohal foyer. The Ockham room provides an excellent environment to visit during the lunch break or after your Honours classes, whether you, in all your sophistication, like to enjoy a nice warm cup of tea or chocolate milk by the (digital) fireplace, partaking in a game of chess or having an interesting chat about our members diverse cultures; or whether you are also sophisticated and just like to do the same with a bottle of beer or glass of wine. Either way, we hope to meet you soon!

Warm regards and much love,

The 11th board of H.V. Ockham

Kenneth Weisbeek - Chairman

Mart Wubbels - Secretary

Melvin Willems - Treasurer

Atis Kazaferi - Commissioner for Internal Affairs

Erik Bösert - Commissioner for External Affairs

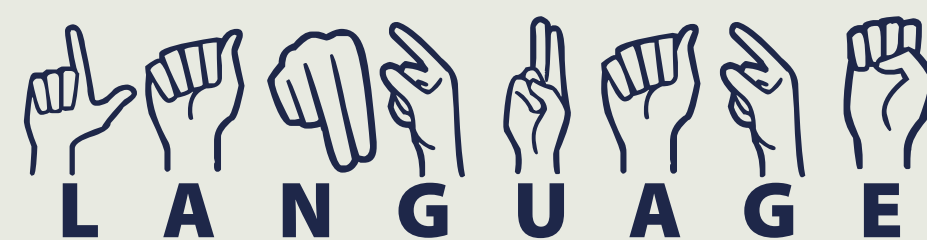


By Leon Smook

Imagine, you are visiting a foreign country and you don't know the local language. Not only do you not know the local language, the locals also do not know any English. What's more, the local culture differs significantly from your own, making 'visual' communication ever more challenging. This is how I imagine deaf people experience the world. Obviously, deaf people will develop a certain skill in communicating with people that can hear, however, they will hardly ever be able to have a fluent conversation in their native language.

The native language of many deaf people is sign language; nevertheless, sign language is not recognized as an official language in the Netherlands at the moment. Recently, Dutch politics have proposed to officially recognize NGT as an official language. This came as something of a surprise to me; why isn't NGT already recognized?

Apparently, sign languages has had something of a rough past. According to het

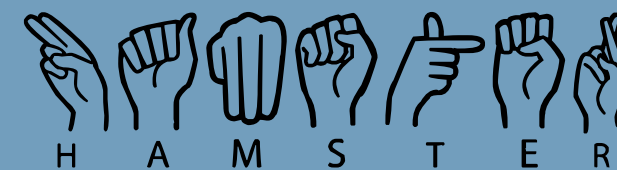


Nederlands Gebarent centrum, sign language was prohibited from being taught to students after a convention in Milan in 1880 on education for deaf people. It was thought that teaching sign language would inhibit students from developing a sense of language, since sign languages was viewed as a pantomime of spoken language. However, linguistic research showed that sign languages exhibits all characteristics of a complete language, and in 1990 all institutes for deaf people adopted a bilingual educational model. Since then, advocates of sign language have tried to get this visual language recognized. In many European countries, this is already the case, yet the Netherlands – which we Dutchies generally tend to see as progressive – remains at the back of the pack. Even Frisian and English are officially recognized in the Netherlands, so isn't it time to assign some formal significance to this visual language? ■

SIGN LANGUAGE FOR DUMMIES



Sign Language is a visual means of communicating using gestures, facial expression, and body language. Sign language is used mainly by people who are deaf or have hearing impairments. Fingerspelling is a method of spelling words using hand movements. The fingerspelling alphabet is used in sign language to spell out names of people and places for which there is not a sign, or for which the 'speaker' does not know the sign. Fingerspelling is thus used to augment sign language. The sign language gesture and corresponding fingerspelling for the word 'hamster' are displayed here by means of example.



Taste Test

UNIQUE PEPERNOOT FLAVOURS

By Atis Kazaferi

A few issues ago, we started a small tradition of providing test reviews (so our dear readers do not have to test stuff themselves). As we are getting close to Sinterklaas*, and it is never too early to eat sweets, our dear committee decided to make short review of available pepernoten (Dutch traditional small cookies). However, we decided not to test your average pepernoten - instead, we decided to test the five weirdest and most original pepernoot flavours we could find. As an international, it is always interesting to see what the Dutch culture can provide, so let me lead you through my recent discoveries. Let's go wild, and judge according to weirdness, yumminess, and aesthetics.

FLAVOUR: REGULAR

"They taste like my childhood", would be the first thing any Dutch person would say. Perhaps because sometimes simple is lovely. We decided to include regular pepernoten in our test as to have a point of reference when testing the weird ones. Although very yummy, the regular pepernoten remain pretty simple and obviously rate low on weirdness... aesthetics are alright, especially if you are hungry and you want to wash your mouth from the less tasty pepernoten on this list. Although only rated at two and a half stars, just stay simple. As Processes of Change students would know: "Simple means creative".

RATING:



FLAVOUR: MELON / WHITE CHOCOLATE

Sweet smell, and lovely taste. Simple, yet slightly complex. These pepernoten are practically bubble gum cookies in taste. Hence, a more complex childhood, good and likable. Although only 3 stars, these ones have a very nice feeling to it. Slightly edgy in in weirdness and yumminess, although just normal on aesthetics. Totally recommended, and I bet those who still had the chance to try them in the Ockham Room after our taste test, would say the same.

RATING:



**Sinterklaas is the Dutch holiday celebrated on December 5th. It is often regarded as the Dutch equivalent of Christmas. Children receive lots of presents and adults write comical poems to each other. The number one snack eaten during and around this holiday are pepernoten.*

FLAVOUR: PINK RASPBERRY CHEESECAKE

Now, here is something adventurous... Different specimens have shown controversial results tasting these pepernoten. Although they have a ranking of three stars, please be careful: they have an acid poison kind of feel, they may fool you with they cute pink colour, and they might ruin your lives and expectations. However, for some reason, everyone keeps getting back to their sweet, interesting taste. If they do not make you go insane after the first bite, you will definitely be one of the few who loves them and eat a complete bag without realizing it.

RATING:



FLAVOUR: JÄGER CHEF

"For those who want to drink Jäger without the consequences", at least that was the initial thought. Unfortunately, these ones are quite disappointing in taste (meaning weirdness). They have a faint weird Jäger smell, and give off just some weird vibes in general. In reality they seem just mediocre. However, they are still lovely, nice and sweet. Some random Russian Roulette can still be done with the (Melon -) White Chocolate ones, as they look pretty similar. If you are up for some real risk though, keep reading.

RATING:



FLAVOUR: UNICORN

Although the real expectation was of some weird magical flavours, different with each colour, despite the prettiness, the Unicorn pepernoot taste like real peanut M&M. They are still amazing (first bag to disappear in the Ockham room), but not really up to expectations. These still deserve a high grade due to the weird feeling, their deliciousness, and great aesthetics... easy to take pictures of. Lesson: always go for unicorn stuff.

RATING:



FLAVOUR: DROP

Alright, it is time to get real! First some instructions: "let it melt in your mouth for a few seconds, before biting through the cookie". And so, the price for the weirdest ones goes to, of course, the liquorice flavoured pepernoten. So far, only Melvin and Luuk would be familiar with the word "nice" after eating one of them, as the tasters Marie-Laure, Eline, and I, had difficulties chewing through, and could not take a second one. They taste like confusion, and they are confused themselves: evil, disgusting, yet interesting, and surprisingly bitter. As an international it is a nice one time experience. As an Honours student I would go clever, and choose simpler. Although, do and eat what makes you happy, and feel unique! ■

RATING:



DIVINE SOUNDS OF NATURE

On Indian Music and its Origins

By Saumitra Athlekar

“Music gives a soul to the universe, wings to the mind, flight to the imagination and life to everything.”

- Plato (427 - 347 BCE)

Music, in one form or another, is inherent to most cultures of the world and is found even in the most isolated tribal populations of the world. As such, it is not a leap to assume that even the first humans practised music in their own way. Possible tangible evidence of musical instruments have been found in cave paintings dating back to prehistoric ages, while the oldest known composition is considered to be over three thousand years old.

Roots of one of the oldest treatises of music can be found in ancient Indian (Vedic) literature. The Vedas, which are ancient Hindu scriptures written in the ancient Sanskrit language, sometime in the 3rd millennium BCE, discuss and utilise musical ideas at length. On one hand, there is the *Rigveda*, which consists of hymns and prayers to various pseudo-pagan Hindu deities such as *Agni* (Fire), *Vayu* (Wind), *Prithvi* (mother Earth), *Dyaus Pita* (Father Heaven or shining sky), *Apas* (water), *Ushas* (dawn), *Parjanya* (thunder and rain), *Vac* (the word), and to several major rivers in India, amongst others. This compilation of over a thou-

sand hymns with over ten thousand verses are set to melodies and rhythms that is described further in yet another set of scriptures called the *Samaveda*. In fact, in Hinduism, there exists a Goddess of music, song and melodious speech, known as *Sarasvati*, who is often depicted holding an instrument (the *Veena*) instead of the usual assortment of weapons wielded by other goddesses worshipped in this religion.

Indian classical music changed over the course of the years and split into two different types, especially with the advent of Islamic rule over India in the 12th Century CE. The Mughal rulers held this music in high regard and under their patronage, classical music flourished. Many new styles were introduced by combining Hindu and Muslim traditions. Classical music split into two major styles, the Carnatic music style practised in the southern regions of the country, and Hindustani classical music, which was influenced by the Arabian and Persian traditions and adopted, for instance, Arabic words and verses in the songs.

Hindustani music is quite differ-

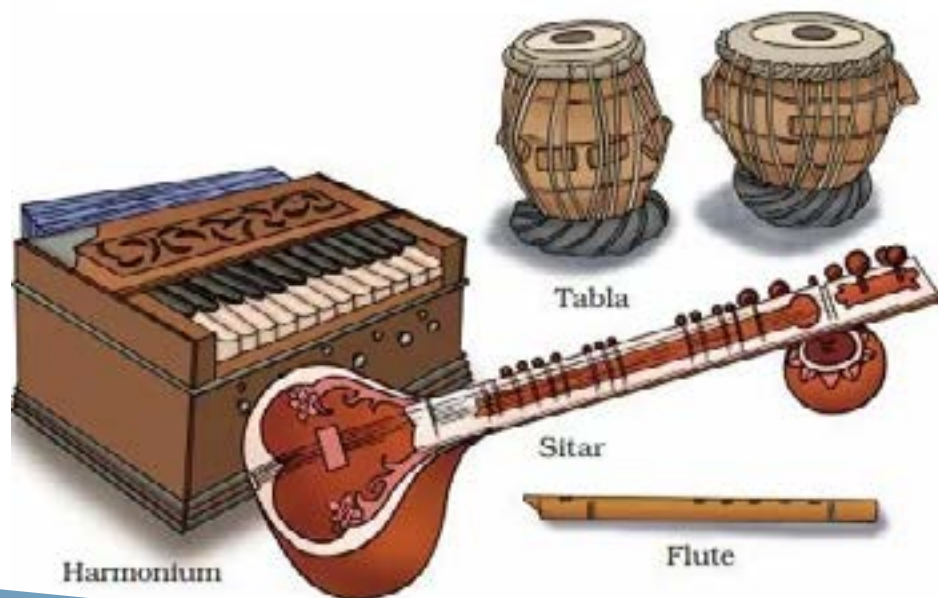
ent from Western music, even though it does use the same seven base notes interspersed with five half-notes. Interestingly, there is no fixed base frequency for this 12-note scale, and even the inter-tonal gap (the difference between two successive notes) can vary, although more modern instruments have adopted a standardised gap. Improvisation is central to this music; general performances include a section of slow-tempo improvisation followed by a fast one, with pre-composed verses dispersed amidst it all. A unique and defining aspect of Indian classical music is the *Raaga*, which provides a melodic framework within which the musician is to improvise. The word 'Raag' is a form of the Sanskrit word for hue, tint or dye, which is an apt designation for a concept that is meant to colour the psychological state of the listener (as well as the performer) with some specific emotions depending on the *Raaga* that is being played or sung. Both Carnatic and Hindustani music consist of *Raagas* and several hundreds of these *Raagas* exist.

While the melodic 'mode' can be considered to be the closest approximation, there are no concepts in classical European music traditions that can be directly equivalent to such *Raagas*. As such, it is difficult to define a *Raaga* without falling prey to over-simplification or simply inaccuracy. To call it a melodic rule set is too simplistic and to compare it to the mode from European classical music with no clarification on the dissimilarities would be lazy. Many European music scholars have tried to explain the meaning of a *Raaga* and have only managed to come up with definitions that are flatteringly extravagant and romantic. José Luiz Martinez, an American professor of Music explains that "the *Raaga* is more fixed than mode, less fixed than the melody, beyond the mode and short of melody, and richer both than a given mode or a given melody; it is mode with added multiple specialities". This is quite true as each *Raaga*, unlike the Western modes, differs from other *Raagas* not only in scale, but also in the manner of ascent and descent in the notes and the leaps that can be made between non-successive notes; there are also rules regarding emphasis on certain notes, the relative duration and order of the notes, and the register and the intonation. Adhering to the denotation of its name, the *Raaga* is described as "unique array of melodic features, mapped to and organized for a unique aesthetic sentiment in the listener" by Bruno Nettl.

There is immense symbolism in the creation and performance of each of the numerous *Raagas*. Each *Raaga* was created with great care and technique to engender a certain *Rasa* (meaning essence or flavour) in the listener's mind, which essentially translates to creating a specific mood depending on the *Raaga* being sung/played. While, several dozens of these are differentiated, the music is traditionally aimed at inspiring some form of the following: love, compassion, peace, heroism, light entertainment, or the feeling of wonder. Further variations are possible because complexity of human emotions have been considered and *Raagas* for various subcategories of sentiments can be found; for instance, there is erotic love (*sringar*) and devotional love (*bhakti*). While negative emotions do form a part of the Indian musical or artistic theories, there are no *Raagas* that are associated with feelings of anger, fear or disgust. The Hindustani system even adds another layer of complexity to these musical practices by introducing temporal rules to the *Raagas*. Certain *Raagas* are to be sung at certain times of the day or during certain seasons, aligning with the idea that a person's state of mind is affected by whether it is night or day, winter or spring, sunny or cloudy, and so on. Notable examples of *Raagas* are (a) *Malhar*: depicting romanticism associated with torrential rain, (b) *Malkauns*: grave, soothing and meditative, to be sung in the late hours of the night, (c) *Bahar*: to celebrate



The Hindu goddess of music Sarasvati, holding the Veena.



the onset of spring, (d) *Bhairavi*: to start the day with, (e) *Hamsadhvani*: literally 'the call of the swan', representing divinity, love and joy, (f) *Bageshri*: to express the complex emotions felt when reuniting with a lover.

As can be expected from a concept that inspires such passionate interpretations and legends, Indian classical music has deep-seated significance in Indian culture as well in major Indian religions. As mentioned before, a major deity in Hinduism is a Goddess of Music, but several other major characters in Hindu epics are accomplished classical musicians that. The inclusion of musical practices in religious scriptures as well as mythology stems from the fact that music has traditionally had, almost a deific or seraphic status in Indian culture. The ever-present celestial spirits, the *Gandharvas*, were musical masters; a style of classical music called the Gandharva style developed the perspective of music as primarily a form of pleasure. Some Sanskrit scriptures (such as the *Gandharva Veda*) expand upon the theory of music in a mathematical and scientific way and yet also considers medicinal and even magical properties of music. Music has been associated with both pleasurable indulgence (*Kama* literature, such as *Kamasutra*) and spiritual purification of the mind (*Yoga* literature), and were used for entertainment as well as in ritual practices.

The belief that music is divine in on itself was widespread, and can still be seen amongst the modern musicians in India. In the old times, it led to religious and spiritual narratives, and sagas of musicians who could create divine music that was capable of invoking natural phenomena, of summoning gods, and long-lasting effects on the humane psyche. Several stories of the preternatural powers of the Raagas have been told through the generations. In mythology, the Goddess Parvati is said to have sung Malkauns (mentioned earlier) to calm a raging Lord Shiva, the Destroyer, whose rampage would lead to the destruction of the universe if not placated on time. Even amongst historic records, wild legends can be found, such as that of the singer Tansen, who sang in the court of Mughal Emperor Akbar. It was said that he could make it rain by singing variations

on the rain Raagas (the aforementioned Malhar) and light the candles and torches in the king's palace by singing the Raaga of light (*Deepak*, literally 'light' or 'lamp'). There is also a story of his singing a night-time Raaga in the morning; as per folklore, the sky became overcast and darkened, and the entire city fell into a hush.

While the musicians or audience of today do not set much store by these fables of old, although the associations between the Raaga, the emotion it represents and the time at which it should be sung are still taught in theory. The Raagas are definitely thought to incite the respective emotions in the listeners, and the music is still considered divine in whatever sense a person chooses. For any religious person, this would mean that their music is basically serenading gods, and for others it would simply mean that their music is above mundane things or disconnected from material pleasures and worldly matters. Throughout the ages, Indian classical music has had the tradition of religious neutrality. Muslim maestros (*Ustad*) sing praise to Hindu gods and Hindu maestros (*Pandit*) sing compositions for Allah. This is noteworthy, as this started in medieval times when the conversionist Mughal empire was in power and continues today, in the atmosphere of religion-based political disparity.

In general, classical music in India is inseparable from its culture and has influenced it to such an incredible extent that the effects of it on Indian society still remain. The daily lives of most of the populace is, in some form, intertwined with this music, sometimes through religion, sometimes through entertainment, and at times, naturally, simply through artistic pursuits. ■

What's a FOUUP?

Join the ASML excursion to find out

Thursday
Oct 17
2019
13:30-19:30

Electrical engineering student?
Book and personalize your excursion
to discover ASML. Everything
revolves around your questions, your
ambition - your future. Get to know
us and get inspired.

Interested? Register before
October 4 at asml.com/excursions.

Ockwarts

Celebrating a Magical Lustrum Year

By Eline Uiterweerd

In 2009, the Honours Programme was still a brand new educational programme. The first cohort of students had just graduated and received their honours certificate. Even though they were happy about completing such a prestigious programme, the group of graduated honours students resented the fact that they would, in all likelihood, lose touch with each other once their honours education was over. Thus, they decided to establish an association for honours students to keep the community intact. And so, on October 29th 2009, H.V. Ockham was founded. It is now almost exactly ten years later, so it is time to celebrate this special birthday! The celebration of our second lustrum will take place from the 11th until the 22nd of November and will be filled with fun activities of all kinds.

THE LUSTRUM COMMITTEE

Of course, the lustrum celebrations could not take place without people willing to organize them. That is why the Lustrum Committee (LuCie) has been working hard ever since the start of 2019 to prepare the 11-day long party for Ockham's 10th birthday. The LuCie consists of six experienced members, of which five are former board members and one is a current board member: Saumitra Athlekar, Atis Kazferi, Guido Ritsema van Eck, Bilge Tekes, Eline Uiterweerd and Hanna de Wolf. They can be recognized at activities and drinks by their awesome committee clothing!



THE THEME: OCKWARTS

As you may have heard already, the theme for this year's lustrum is Ockwarts. To keep the tradition of punny lustrum themes alive, the Lustrum Committee created a contraction between Ockham and Hogwarts. Indeed, the theme name fits well with the theme of the first lustrum: Ockhamalot, a combination of 'Ockham (a lot)' and Camelot. The activities of the lustrum will have a nice magical touch - but you definitely do not have to be a Potterhead to have a good time!

Ockwarts has its very own mascotte: Hammie Potter. This magic little rodent can be found on all things lustrum: committee clothing, decorations and perhaps even future merchandise products...



THE ACTIVITIES

The lustrum would be nothing without all the activities that have been scheduled. Check out the right page to see the full list! Also keep an eye on the website, the Announcements WhatsApp group and the Facebook group for updates. Activity registration and ticket sales for the lustrum activities will start very soon!

Activity Overview



Lustrum Kick-off Drink

Celebrate the start of H.V. Ockham's second lustrum during the kick-off drink!

Mon November 11th, 20.00 - 00.00 | Technobar | No entrance fee

Symposium: The Future of an Honours Student

During this minisymposium, some of H.V. Ockham's alumni will be telling you about their careers and how the honours programme has helped them.

Wed November 13th, 18.00 - 20.00 | Location TBA | free

Scavenger Hunt

Join us on our Ockwarts scavenger hunt for a night of fun. The winning team will receive a prize (and eternal glory)!

Thu November 14th, 18.30 - 22.00 | City center of Enschede | free

Lazy Sunday

The perfect opportunity to have a chill day mid-lustrum. Get ready for a movie marathon, board games and a copious amount of snacks and drinks!

Sun November 17th, 13.00 - 20.00 | Ockham Room | free

Murder Game

Defeat your friends and foes during this five-day battle to become Ockwarts' most powerful wizard!

Mon November 18th - Fri November 22nd | Wherever your opponents may be! | free

Cocktail Workshop: Potion Brewing 101

Dust off your old cauldron and prepare to brew the best (alcoholic?) potions!

Tue November 19th, 17.30 - 19.30 | Vestingbar | €7,50 (includes two cocktails)

H.V. Ockham Lustrum Gala

Time to dress up fancy and celebrate the end of the lustrum in style!

Fri November 22nd, 21.00 - 02.00 | Waarbeekzalen Hengelo | €22,50 (including unlimited drinks)



Ockwarts
Second Lustrum H.V. Ockham

CLICKBAIT

By Marie-Laure Snijders

Clickbait is Changing the Internet - Here Are 5 Things You Need to Know!

Every time that I go online, I have to navigate an endless number of unwanted articles. Somehow, my computer is able to remind me everywhere that I looked up hotels in Belfast that one time (and that there are only 4 rooms left!), but it cannot seem to understand that I still don't want to see how "people are becoming millionaires in Enschede overnight using this one amazing trick". Almost every site you go on tries to keep you on their domain by showing you article after article of anything that could be remotely relevant.

Whether you are scrolling through BuzzFeed or just browsing on your favourite blog/news site, it is becoming harder and harder to close the tab and focus back on studying. Of course, headlines are meant to grab the attention of the reader, but when it comes to clickbait, the fall down the rabbit hole seems endless. Whenever I do find myself intrigued enough to take the bait – of course I want to know whether I am more a Disney princess or Disney villain – it usually results in disappointment. In order to break the spiralling circle of articles misguiding you into reading their useless information (and not just because I wasted my time on BuzzFeed instead of coming up with a topic for my column), this article will actually give you 5 interesting things you need to know about clickbait. Enjoy!

1. INCREASING VIEWS

Clickbait is used to generate the most views on a page. The most successful (and most often used) title phrases are "...will make you...", "this is why..." and "can we guess..."

2. CLICKBAIT PARODY

The Onion has made their own parody clickbait site, called ClickHole, which strives to "make sure that all of our content panders to and misleads our readers just enough to make it go viral". Some highlights of their clickbait titles are: "Get Excited, Children! It Is Cigarettes", "Clearing Things Up: KISS Has Announced That All Of Their Sex Songs Are About Having Sex With Human Women Even Though They're Dressed Up As Demons And Aliens And A Cat" and "Nature Is Incredible: this Suicidal Octopus Species Can Perfectly Camouflage Itself As A Hamburger To Get Predators To Eat It Faster".

YOU WILL NOT REGRET READING THIS AWESOME XKCD COMIC - FIND OUT WHY!

20TH CENTURY HEADLINES REWRITTEN TO GET MORE CLICKS

HOW A SHOCKING NEW THEORY, DISCOVERED BY A DAD, PROVES SCIENTISTS ARE WRONG ABOUT EVERYTHING!	1905	6 TITANIC SURVIVORS WHO SHOULD HAVE DIED	1912
17 THINGS THAT WILL BE OUTLAWED NOW THAT WOMEN CAN VOTE	1920	THIS ONE WEIRD MOLD KILLS ALL GERMS	1928
MOST EMBARRASSING REACTIONS TO THE STOCK MARKET CRASH [GIFS]	1929	THESE 9 NAZI ATROCITIES WILL MAKE YOU LOSE FAITH IN HUMANITY	1945
5 INSANE PLANS FOR FEEDING WEST BERLIN YOU WON'T BELIEVE ARE REAL	1948	AVOID POLIO WITH THIS ONE WEIRD TRICK	1955
12 NIP SLIPS POTENTIALLY VISIBLE TO SPUTNIK	1957	THIS YEAR'S ASSASSINATIONS RANKED FROM MOST TO LEAST TRAGIC	1968
THIS IS THE MOST IMPORTANT PHOTO OF AN ASTRONAUT YOU'LL SEE ALL DAY	1969	THIS VIDEO OF A TERMINALLY ILL CHILD WATCHING THE CHALLENGER LAUNCH WILL BREAK YOUR HEART	1986
YOU WON'T BELIEVE WHAT THESE PEOPLE DID TO THE BERLIN WALL! [VIDEO]	1989	500 SIGNS YOU'RE A 90s KID	JAN 1, 1990

3. APPEAL TO EMOTIONS

The stronger the emotion shown in the clickbait content, the more likely it is to be shared. There are six primary emotions that make for the best social-friendly content (just in case you ever want to start your own successful YouTube channel): fear, anger, sadness, disgust, joy and surprise.

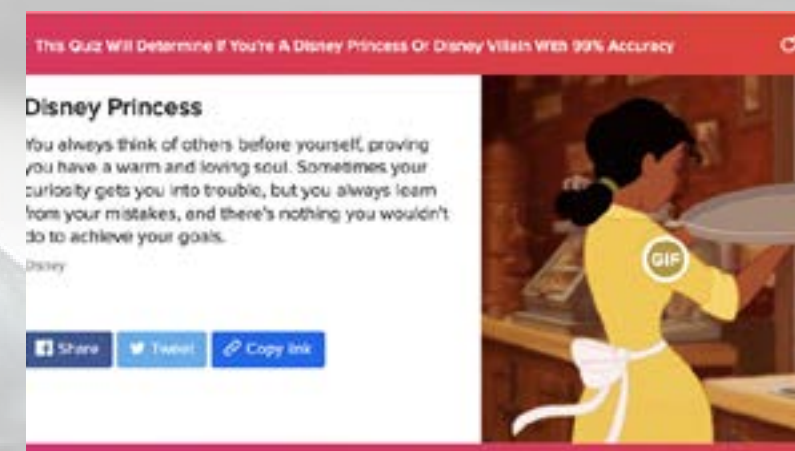
4. FACEBOOK VS CLICKBAIT

Even Facebook has made a stand against clickbait. The social media site's algorithm punishes publishers that use "vague or misleading headlines to lure users into clicking". Posts with such clickbait-headlines are placed in less news feeds and are positioned lower so that less people will see them.

5. FOCUS!

If you ever need to escape the clutches of clickbait, there are some nice apps and techniques that can help you regain focus such as adblockers, the Pomodoro technique, Remember the Milk (task management), Mindful browsing or, if you want something more hardcore, the Cold Turkey Blocker.

Of course, it is nice to let yourself sometimes become distracted from studying, but at a certain point the deadlines won't wait anymore, and luckily the BuzzFeed quizzes always will. And for those of you who are still interested, apparently I am more Disney princess than Disney villain, which confirms my point: clickbait only leads to utter disappointment. ■





Honoursvereniging

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