

POLYKUM

A scenic landscape at dawn or dusk, featuring a range of mountains under a clear blue sky. Several colorful hot air balloons are floating in the air, scattered across the horizon. The foreground shows a dense forest of trees, partially illuminated by the low sun.

BEGINNING

NEW SEMESTER, NEW ME

Old resolutions, new beginnings

HXE

Die 70 Mio. Zukunft vom
LochNess-Gebäude

GESCHICHTE DES ALPHABETS

Das A und O von A bis Z

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Universität
Zürich ^{UZH}

Event series 2023 **Democracies under threat**



October 24, 2023 | University of Zurich

Wolfgang Schäuble

Die Zukunft der freiheitlichen Demokratie



November 7, 2023 | University of Zurich

Steven Pinker

Rationality: What it is, why it seems scarce, why it matters



November 13, 2023 | Kongresshaus Zurich

Nobel laureate Herta Müller

Keynote: Demokratien in Gefahr



November 13, 2023 | Kongresshaus Zurich

Hélène Landemore

Disputation: Debating democracy



November 13, 2023 | Kongresshaus Zurich

Jason Brennan

Disputation: Debating democracy



November 13, 2023 | Kongresshaus Zurich

Silja Häusermann

Polarization of democratic politics



November 13, 2023 | Kongresshaus Zurich

Natasha Wunsch

Who tolerates democratic backsliding?



November 13, 2023 | Kongresshaus Zurich

Daniel Ziblatt

Zurich Lecture: How democracies die

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EDITORIAL

A Hollywood Happy Beginning, Anyone?

Per a (slightly irritating, in the humble opinion of at least one editor) German-language proverb, “Any beginning is difficult”. We – the now three-person Redaktionsleitung and six-person Board with many new and excited faces – creatively disagree with this assumption on many fronts.

Nevertheless, in this issue, we show you that beginnings can also be pretty – picture clouds of interstellar dust forming into planets. They can be biblical – realize that the letter “A” predates the Common Era and much of modern language. They can be futuristic – observe the shiny replacement of HXE. And, of course, they sometimes are heroic – think midwives.

Nor do they need to be huge. A modest beginning, for example, could just be starting cello at age 23, as Sabrina did. How does she – the heart of the Redaktionsleitung – feel holding on to both a cello case and determination when standing next to a 9-year-old with a cello and probably twice as many years of experience? It is strange. But also exhilarating.

The new semester – for some of you, the very first – is yet another intimately monumental Beginning. We’d love to sweeten, simplify, and – with our love of alliteration – serenade it for and with you!

Navya, Sabrina, and Lisa

Lisa Likhacheva, Navya Itty,
and Sabrina Strub
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Das Polykum ist ein Magazin des

vseth Verband der Studierenden an der ETH

VSETH

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PRÄSIKOLUMNE

A warm welcome back!



VSETH

Dear Readers,

In the name of VSETH, I would like to extend a warm welcome to all Erstis and a hearty welcome back to everyone else! Over the summer, we have all been busy revising, writing exams, completing our theses, and taking time to reflect on the past semester while preparing for the upcoming one.

My name is Julia and I am the new President of VSETH. Some of you might already know me from my time at VIS, where I was the board member for university politics and then president. As you may have guessed, I study Computer Science. For those of you who don't know me yet, I am confident that we'll get better acquainted over the coming year, whether through Polykum, VSETH events, or perhaps just through chance encounters at CAB, where I spend most of my time. In any case, I am very much looking forward to representing your interests to ETH, and to making your university experience as enjoyable as possible.

The beginning of the semester is always incredibly nice to witness, but it is also incredibly intense. I vividly recall my own first days as an ETH fresher, a mixture of thrilling anticipation and a touch of trepidation. There were countless new lessons to learn, countless faces to meet, and countless rooms to find one's way around. Each year since then has gotten less terrifying but remained almost equally exciting. Starting this semester in a completely different role has been particularly fascinating. Instead of searching for exercise sheets and classrooms, I have been immersed in the preparations for the Ersti Fest, attending various meetings, and writing countless emails.

As you embark on this new semester, I offer my best wishes and assurance that we at VSETH have many exciting things planned for you.

Once again, welcome to the new semester, and may it be a period filled with personal growth, academic achievement, and unforgettable experiences!

See you soon, Julia

HOPO-KOLUMNE

How you end up doing HoPo

Welcome to university politics, home of long discussions, more or less serious meetings and, of course, spicyyyyy facts. So lean back and enjoy while we spill the tea, chat the camomile and bubble the boba. Today's main topic: what is university politics and how do you end up in HoPo?

To make it more interesting, our three VSETH HoPo board members will (anonymously) tell you how exactly they became VSETH board members.

HoPo A:

My story has two versions – I'll tell you both. Version 1: During my first semester at ETH, I somehow ended up in a random zoom call and quickly got elected as semester spokesperson there.

Afterwards, people dragged me to also candidate for other positions in my study association – from teaching commission delegate via HoPo board member to President.

Version 2: A professor at my department made a comment on sexual harassment and how it influences the image of ETH. I deeply disagreed with that and therefore I started ranting about it and an anonymous VSETH Ex-Präsi heard it and was annoyed by my ranting abilities, thinking they would be better employed for something useful. So he „motivated“ me to become active in university politics. And now I'm here.

HoPo B:

Pizza. It all started with pizza. A few years ago I started my Bachelors at ETH. I was really motivated, but also really broke. One day, someone came to one of my lectures and used free pizza as an advertisement for an event – this seemed like an additional source of food so obviously I went there. Turns out it was a HoPo event of my study association and surprisingly interesting.

Afterwards, I got involved more and more in HoPo. Eventually, I became a HoPo board member of my study association.

I enjoy discussing problems at ETH. In HoPo, we often do something we call "productive ranting". At its core, this is about first ranting for a while about something going wrong and then calming down and trying to find constructive ideas and possibilities to

improve the situation. Finally – and most importantly – we write emails with our ideas to professors, study directors and study coordinators and see what they think of it.

Last summer, I randomly overheard that VSETH had some trouble with finding enough candidates for the new board elections. That sparked my interest. Then, an anonymous VSETH Ex-Präsi convinced me to run as a candidate.

And now I'm here.

HoPo C:

It all started with a random email. One day, out of the blue, I got an email from the HoPo of my study association, asking if I wanted to be a HoPo board member. Why did she think of me? Good question. Basically, a friend of a friend had recommended me, because I seemed too bored with just studying. Which was true....

And suddenly I was going to FR and MR, being surrounded by VSETH Filz and (against my better judgement) enjoying it quite a bit. After one semester of being HoPo board member and one semester president of the study association and generally going to too many VSETH events, I was on the infamous list of probable candidates for being a HoPo VSETH board member. We all know how that ended...

And now I'm here.

These are our stories - what about yours?

There are many different ways to get involved in HoPo. Check out your study association's website – some study associations have university politics commissions and they will be happy to hear from you. VSETH also has a working group for university politics. Just write an email to hopo@vseth.ethz.ch and we'll get in touch with you.

Looking forward to hearing from you!
HoPo A, HoPo B, HoPo C



VSETH-BOARD

Meet Your New VSETH Board

After barely a week in office, we asked the VSETH board to confront one of the three formidable challenges: plan for meeting an alien at CAB, probe the insomnia-coping mechanisms of sheep, or to fill the shoes of a TV producer

VSETH



JULIA BOGDAN
PRESIDENT

What would be the title of your autobiography or a TV show about your life?

It would either be called "It started out somewhat okay, now I'm here" or "What it takes to want to be the VSETH president".



KLARA SASSE
VICE-PRESIDENT
AND UNIVERSITY POLITICS
(HOCHSCHULPOLITIK)

What do sheep count to fall asleep?

I think sheep count the number of potentially harmful plastic pieces that they accidentally chew on to fall asleep.



VENUJAN PUSPARAJAH
PROJEKTE

What would you say to an alien if you met them at ETH CAB?

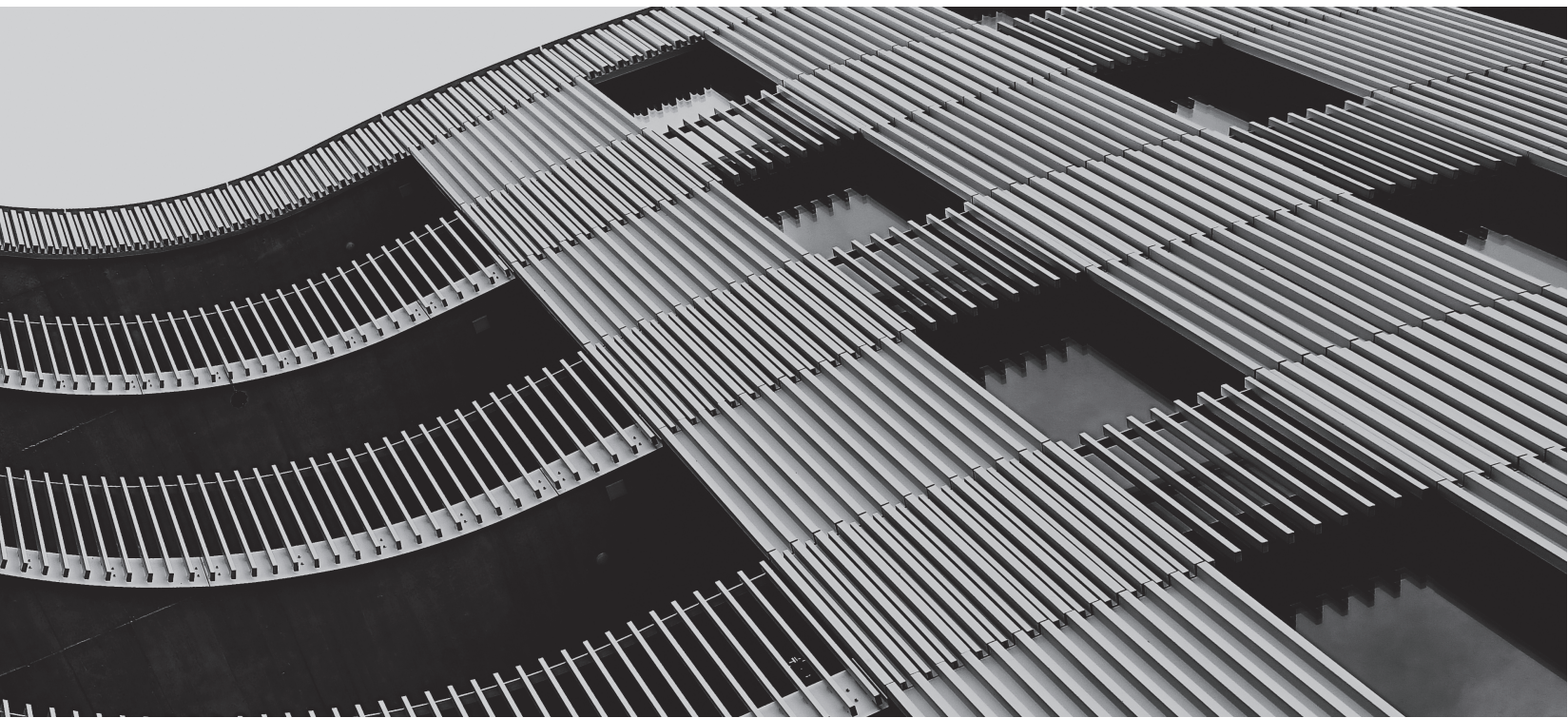
If I met an alien at CAB, I'd instantly invite them to the karaoke evenings I organize, since I do that with anybody I meet. And then I'd show them our weird customs of Beerpong, Rage Cage and general partying, as is my duty as event organizer.



SOPHIE SCHULZ
HOCHSCHULPOLITIK +
RAUM-INFRASTRUKTUR

What do sheep count to fall asleep?

Sheep count humans trying and failing to climb/jump over gates (apart from those few humans doing parkour, who annoyingly jump over with no problems).



ZOE PRZYGIENDA

KOMMUNIKATION

What would be the title of your autobiography or a TV show about your life?

I can't tell you what the title of my autobiography is ... yet. However, this chapter about my time at VSETH is named 'Negative space, color contrast, and the signet: How to have an emotional relationship with Corporate Identity Guidelines'.



MIRO KIENER

KOMMUNIKATION + IT-INFRASTRUKTUR

What would be the title of your autobiography or a TV show about your life?

If my life had a movie title, it would be Everything Everywhere All at Once. I guess that speaks for itself.



JANA LEA FUCHS

HOCHSCHULPOLITIK UND INTERNAL AFFAIRS

If you ran into an alien at ETH CAB, what would you say to them?

If I met an alien in ETH CAB, I would ask them if they brought some snacks.



BASTIAN KSINSIK

PROJEKTE

What would you say to an alien if you met them at ETH CAB?

In case they speak Swiss German, I'd say "Hesch Lust zum a Rundi goh töggala?" And if they look confused, I'd try it in English: "Are you down to play some table soccer?"



LISA BACHMANN

INTERNAL AFFAIRS

What would be the title of your autobiography or a TV show about your life?

My autobiography/TV show would be called "Let's call it magic. - That sums it up pretty well".



CLÉMENT LEFEBVRE

QUÄSTUR

What would you say to an alien if you met them at ETH CAB?

Ask him if it wants to be part of the board and fill one of the empty positions ;)

VSETH PIN-UP BOARD

TEXTE VON **POLY-E-FAIR ORGANIZING COMMITTEE**, MARIUS TSCHICHOLD, NOAH MARTI, COURTNEY LEUNG, SALLY LIU & **AMIV**

VSETH

HERTZ IS BACK!

HERTZ ist zurück! Gemeinsam mit den Psychologiestudenten der UZH (FAPS) bringt AMIV eine weitere Runde verrückter Partys! Der Vorverkauf beginnt am 20. Oktober. Verpass die grösste Party des AMIV nicht!



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JOIN US FOR POLY-E-FAIR 2023 – THE VIRTUAL CAREER FAIR OF ETH ZÜRICH

Are you currently looking for a job or want to explore potential career paths? On the 26th of October 2023 we will take the career fair to you. Exciting global companies from around the globe gather in a virtual setting to meet talents from the ETH domain. Simply join us via your browser and enjoy an efficient and fun networking experience. Visit our website polyfair.ch and follow our social media channels for more information.

Mark the date and sign up at polyfair.ch in a matter of minutes. We look forward to seeing you there!

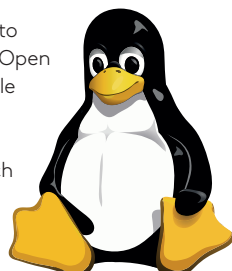


THEALTERNATIVE – FOR A SUSTAINABLE DIGITAL WORLD

We are students at ETH, who help you with Linux at our events and in our office (CAB E14). For free! Because we love Open Source, want to promote Software Freedom and help you get started.

Each semester, we organize events to help you use and produce Free and Open Science, Hardware, Software and File Formats.

Visit our website at thealternative.ch or visit our office (office hours every Tuesday from 10:30 to 13:30).



RPG DAY

Once again we're cooperating with SwissRPG and Indie Gamers to bring you Dungeons and Dragons and other role playing games! Join other players on a fantasy adventure over the course of a few hours and share epic stories with friends and strangers alike! Head over to our Website for all the info: <https://geco.ethz.ch/rpgday>



MIRROR COP 28

The 28th United Nations Climate Change conference (COP28) will be held in Dubai in December 2023, serving as a platform for policy makers from around the world to discuss measures against the climate crisis. SSC at ETH is hosting a mirror version of the COP28 this year to discuss the COP28 process and enable you to act efficiently against the climate crisis. In events before, during, and after COP28, participants will have the opportunity to engage with important topics related to the COP process. To find out more visit the QR code below or visit our webpage on scc.ethz.ch.



TANZQUOTIENT: HERBSTBALL 2023 – GET YOUR TICKETS NOW!

Get ready to dance the night away to live music by Polyband and Tanzkapelle Macadamia at this year's Herbstball! On November 4, an evening of music, dance and shows awaits you. Dancers of all levels are welcome. No dance partner? No problem! Simply sign up on our website and we will find you someone to go with. Also, don't miss the chance to register as a helper and enjoy reduced (or even free) entry! Tickets and further info here: bit.ly/herbstball2023



Off to a Smooth Start

Dear reader,

As this is the first instalment of what will hopefully be a series, I opt to break a number of well-established style rules right out of the gate. I thus address you directly to ask: Why do we do science the way we do it – and, frankly, why do we do it all?

We know two things for certain. First, science works (ask anyone who has ever been on a plane). And second, we know what principles make it work. In a very abstract sense, this is what you and I engage with in our lectures every day. Most of us however would be hard pressed to explain where these foundational ideas come from, and how indeed they turn out to sufficiently (dare one say «truthfully»?) explain the empirical world we find all around us. In this beautiful garden of ours, we are like a modern-day Sisyphus raking in the leaves, not knowing whence they came, not knowing why they are so plentiful, and wondering why, every year come autumn, we have to rake them in once more. In brief, this question is as much an exercise in the understanding of understanding as an attempt to answer the age-old question: where, after all, do our ideas come from?

To some, surely, this pursuit of ours is of a purely aesthetic kind: like Zen monks they would be content to rake gravel for leaves. To others, science is mostly a profession to be mastered from instruction and so long as our allowance stayed the same, we would not shed a tear – leaves or no leaves. But to most of us, our understanding of Nature is something in between. As much as we might enjoy theory for its own regards, we only truly respect it when it also begins to explain the data. Remember that for any finite set of results there is always a much larger number of possible hypotheses imaginable than what we ultimately admit as valid answers.

As we expand our set of observations, the space of possible explanations does not necessarily diminish. The number of assumptions might simply increase with it. Not unlike how the number of solutions for a set of linear equations does not decrease if for every parameter we put it in, we also introduce a new equation. Even if we assume that the «true»

explanation is the one with the fewest of assumptions (candidly, how many of our own theories fulfill this criterion?) we would still most likely be left with a bunch of degenerate solutions. Occam's razor – shave off any assumption you do not absolutely need – only gets you so far. Whether an infinite set of observations would see a unique explanation emerge is a question on which I have no opinion, other than to point out that, to the best of my knowledge, the amount of information in the Universe is finite.

Science is no frictionless process. Think of the simplest scientific phenomenon that comes to your mind, perhaps a singular wave in an isotropic medium or a point of mass which moves. There is an essentially infinite number of ways to explain such a simple observation: some in plain contradiction to each other, some unnecessarily complicated, some indeed plausible, but limited. If one were to know nothing else about the Universe than that there existed a point of mass in motion, one could assume that it is inherent in all matter to move. We restrict our solution space gradually by admitting more data: eventually, we will find that certain objects are at rest. You might rejoice at having refuted such an unscientific hypothesis. You could just as well rescue the ad hoc with: all free mass moves. Matter, however, can be prevented from moving if external forces are applied to it. You might observe that our point-mass is accelerated towards other point-masses: well, clearly, the presence of point-masses reduces the decelerating forces that otherwise act on our point mass, i.e. gravity exerts a force opposite to any external breaking force. The same for Coulomb's law and so on and so forth.

Nothing about the above is a priori unscientific. The rules outlined here can be experimentally verified. They are neither in contradiction with themselves nor with the data we have considered so far. It is actually not such a strange thing to find two completely opposite ways to see the world coexist in science. If you had asked Aristotle why a ball stops when you roll it over a patch of grass, he would have explained to you that all mass has the tendency to rest. Evidently, Aristotle would have been no proponent of our prior alternate physics. The only way to prevent the ball

Leif Sieben, Alter=3xNachname-1,

befindet sich gerade in einer Superposition von Bachelor und Master in Interdisziplinären Naturwissenschaften (Bio-N) und stellt sich nicht nur in seinen Vorlesungen oft die Frage "warum"?



Calming – the aesthetically pleasing practice of raking gravel or sand into patterns reminiscent of water.

from moving, so Aristotle would say, is by continuously supplying it with some force, i.e. accelerating it. Intuitive enough, no? What object of your daily life moves continuously without you pushing it again and again? To the scientifically literate, of course, the punchline of the story is already much too clear: It would be Newton who would 2 kiloyears later turn this assumption on its head.

A body remains at rest, or in motion at a constant speed in a straight line, unless acted upon by a force.

To Newton, matter inherently does not want to experience change. Yet another way to see it! He too can explain our observation, but if you ask me, it is hardly any more intuitive. Despite arguably making an even broader assumption than Aristotle, Newton's assumption does not really make do with fewer steps: the ball stops because its movement over the grass has a reciprocal force of friction, which acts against its otherwise straight and constant trajectory. Quite some gibberish to explain something

we could have guessed ourselves. Newton would of course prevail. And this column, neither meddling in any counter-history of science nor wishing to partake in this stomach-turning societal disease of ours – nostalgia – full-heartedly condones this. But there remains a weird glitch in our theory: nothing in the real world is without it, yet there is no theory of friction. It only ever is a corrective term to an equation, an intellectual nuisance, an aesthetically unpleasant higher-order perturbation to the underlying, fundamental truth. Oh, what irredeemable pleasure there is in saying: to first order.

Indeed, in a real sense, the 2nd law of thermodynamics guarantees the existence of friction. For any realistic process, the entropy of the Universe must increase. And the heat required for this increase is typically supplied by some sort of friction. Friction makes processes non-ideal. It also makes them possible in the first place. It is rather telling, indeed, what in this explanation we consider as the «ideal».

It is also not entirely true to say that there are no equations of friction. The Amonton-Coulomb model of friction is often applicable for simple mechanical problems: The force of friction is directly proportional to the applied load but independent of sliding velocity and area of contact. A better example would perhaps be the Darcy-Weisbach equation, which estimates the loss of pressure due to friction along a pipe. But both depend principally on some empirical co-efficient and cannot explain the magnitude (or causation) of the friction. It is in those cases where the physical phenomenon is reliant on it by first principles, where friction is no afterthought to theory: be it during the braking of a car or the turbulence of water moving through a pipe. Here still, friction's role is mostly in filling in the gaps, a slightly unbecoming position for such a universal property of Nature.

In part, this is explained in part by the chaotic, non-linear and difficult-to-abstract nature of this problem. Maybe friction is also too much of an uncomfortable reminder that the universe which we inhabit, was perhaps not made with the intention for us to one day fully comprehend it. But there is no doubt in our mind as to why we do science, nonetheless. For even in our incomplete understanding, we are capable of the most miraculous things – both in theory and in practice. There is no future without science and there has been no greater force for progress than us, who we toil in our lofty Garden every day. That we understand parts of reality is without question and we trust that there is still much that we may discover. Yet to believe that one day we may understand everything might be placing too much hope in some form of benevolent creator. But then again, who could have possibly been so evil as to let us populate a world in which we may even know that, which we may never know at all.

¹ As you may or may not know, raking gravel into an (aesthetically pleasing) pattern reminiscent of water is commonly practiced in Zen gardens for the purposes including but not limited to improving concentration

² An esoteric claim, you might retort, yet no more esoteric than believing in the spin-statistical theorem. In either case, we are at a loss to say why Nature exists in this way. At best, we may reply that we could not imagine it being otherwise.



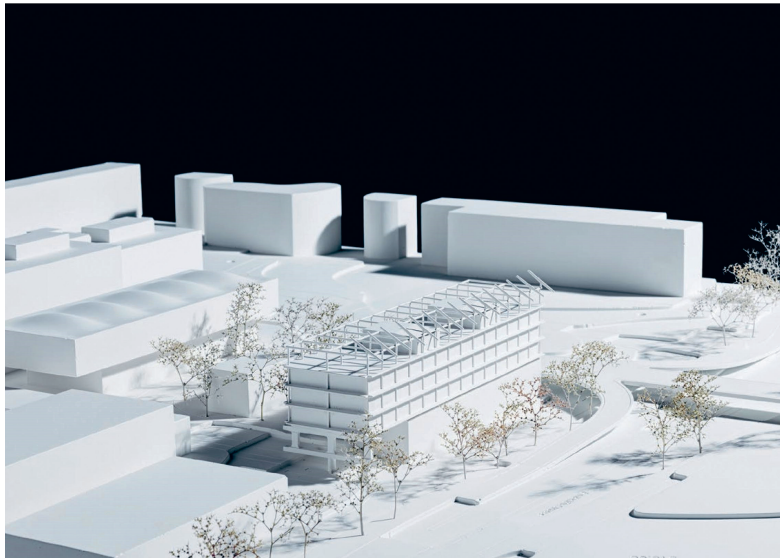
Das HIC umfasst Veranstaltungsräume im Erdgeschoss und Büros darüber. Es wird der neue kulturelle Hotspot auf dem Hönggerberg.

HIC – Der Beginn einer neuen Ära

Ab 2028 soll das HIC weitere Kultur- und Austauschmöglichkeiten auf dem Hönggerberg eröffnen. Worauf Du Dich dabei freuen kannst und wie Du bereits heute Teil der Donor Recognition Wall werden kannst, erfährst du hier.

Hönggerberg, 1965: Die ETH baut die ersten Gebäude der Aussenstation. Einzelne, private Gebäude existierten bereits, so eines aus dem Jahr 1955, das wir heute als HXE kennen. Das Gebäude und sein Grundstück verblieben im Privatbesitz bis in die frühen 90er Jahre, als es die Eidgenossenschaft erwarb. Der VSETH und insbesondere die architekтура haben sich für Kultur- und Austauschmöglichkeiten auf dem Hönggerberg eingesetzt, bis der VSETH 1997 ins HXE einziehen konnte.

Heutzutage sind im HXE einige Fachvereine, Kommissionen, Veranstaltungen und das wohlbekannte LochNess zuhause. Allerdings geht die Zeit nicht spurlos am HXE vorbei. Deshalb, und weil das D-INFK mehr Räume im Zentrum (d.h. im CAB) braucht, hat die Schulleitung 2019 die Notwendigkeit eines neuen Gebäudes festgestellt. Dies bildet die Basis für das zukünftige «Center for Students and Entrepreneurs» (<https://hic.ethz-foundation.ch/en/>), oder als ETH-Kürzel: HIC. Das HXE soll bis



Modell des künftigen Campus Hönggerberg mit dem neuen HIC Gebäude.



zum Bezug des HIC bestehen bleiben. Stand heute beginnt damit ab 2028 eine neue Ära auf dem Hönggerberg.

Eine neue Ära?

Das HIC wird die Bedürfnisse von VSETH, Fachvereinen, Student Project House, Entrepreneur Club und anderen bündeln. Im Erdgeschoss entstehen drei Veranstaltungsräume (für 500 Personen bzw. zwei Mal für 400 Personen), sowie ein studentisches Café bzw. im Abendbetrieb eine Bar. Die Fachvereine bekommen mehr und grössere Büros, mehr Sitzungszimmer und ein «echtes» Lager, das sinnvoll für Veranstaltungen genutzt werden kann.

Maximilian Degner, 23,

MSc Mechanical Engineering, ist derzeit KI Präsident – nicht Präsident der künstlichen Intelligenz, sondern der Kommission für Immobilien des VSETH.

Zusatzinfo: Als Autor habe ich mich eingesetzt, aber die KI hat diesen Text als Gremium beschlossen.

Warum dauert das alles so lange?

Seit 2019 gab es einen Architekturwettbewerb und dessen Gewinner heisst EQUILIBRES. Der VSETH hat Detailkonzepte für Veranstaltungen, Gastronomie, Veranstaltungstechnik, etc. ausgearbeitet, mit der ETH diskutiert und ins Projekt integriert. Weitere Detailabklärungen nimmt derzeit die Abteilung Immobilien der ETH vor.

Und was kostet das alles?

Offiziell werden ca. 70 Mio. Franken veranschlagt, von denen 40 Mio. Franken Drittmittel sein sollen. Die UBS beispielsweise finanziert einen Teil der Drittmittel. Aber die ETH Foundation suchte und sucht auch Spenden von anderen Firmen und Privatpersonen. Zusätzlich trägt der VSETH Kosten für den Innenausbau von etwa 1.5 bis 2 Mio. Franken.

Aber 2028 studiere ich schon nicht mehr in Zürich! Das ist gut möglich, aber falls Du Dich schon immer mal in einem ETH-Gebäude verewigen wolltest, gibt es vielleicht eine Möglichkeit: Alle Spenden ans HIC, sogar 10 Franken, bieten die Möglichkeit auf die Donor Recognition Wall zu kommen – also Dein Name in einem ETH-Gebäude, auch wenn Du nächstes Jahr nicht mit einem Nobelpreis ausgezeichnet wirst. → Link: <https://t.ly/CcUKo>



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Es ist Zeit, dass wir zusammenarbeiten.

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UNSERE HELDEN IM ALLTAG

Christian Buser, Technischer Projektleiter



WAS BEGEISTERT DICH AN STADLER?

Mich begeistert das Produkt. Es befindet mit seiner Nachhaltigkeit am Puls der Zeit. Trotz Stadlers Konzerngrösse, ist die Nähe zum Mitarbeitenden spürbar in der Stadler-DNA verankert. Dies zeigt sich beispielsweise in den kurzen Kommunikationswegen und der Nähe zwischen Engineering und Produktion. Wenn ich abends durch die Produktionshallen laufe, erkenne ich den eigenen Beitrag am Produkt.

Stadler gibt mir die Möglichkeit Prozesse mit zugestalten, zu optimieren und dadurch die Organisationsentwicklung voran zu bringen. Zusammenfassend kann ich sagen: Wer will, der kann!

WIE KONNTEST DU DICH BEI STADLER WEITERENTWICKELN?

Es gibt viele interne sowie externe Weiterbildungsmöglichkeiten. Als Beispiel kann der Eisenbahntechnikkurs, in welchem Branchenfremde die Grundlagen der Bahntechnik erlernen, oder Führungsschulungen genannt werden, welche

sich auf die individuellen Bedürfnisse zuschneiden lassen. Ich wurde rundum dabei unterstützt meine fehlende Kenntnisse, aufgrund meiner Branchenfremdheit, zu erweitern.

WAS WÜRDEST DU ANDEREN EMPFEHLEN?

An der ETH erlernst du die theoretischen Grundlagen für die Vernetzung und das Abstrahieren von komplexen Themen. Stadler ergänzt diese Eigenschaften mithilfe der praktischen Anwendung. Dabei ist wichtig, der Praxis gleich viel Wert beizumessen, wie der Theorie. In der Mischung liegt der Erfolg.

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STADLER

Schwerhörig im Hörsaal

Der (Studien-)Alltag ist für Menschen mit Beeinträchtigung oft voller kleiner und grosser Hindernisse – die uns anderen meist gar nicht auffallen. Timo, selbst hochgradig schwerhörig, erzählt von seinen persönlichen Erfahrungen im Studium und dem Programm «Hindernisfreiheit an der ETH», das es sich zum Ziel gesetzt hat, die ETH inklusiver und zugänglicher zu machen.

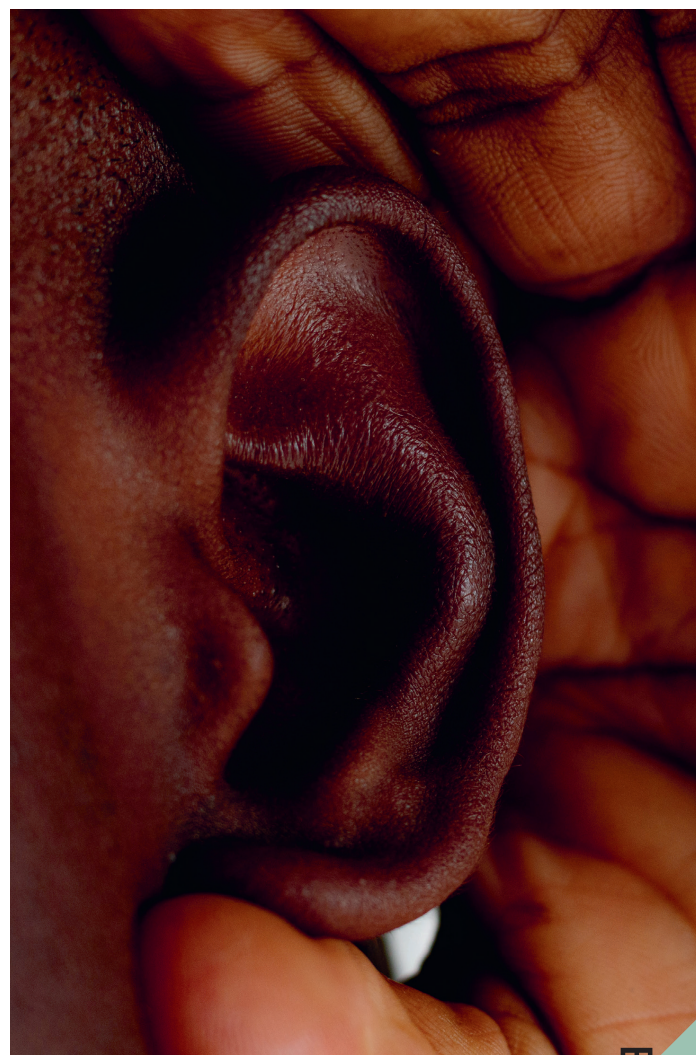
Seit meiner Kindheit bin ich hochgradig schwerhörig und im Alltag immer auf Hörgeräte angewiesen. In vielen Situationen, zu welchen auch Vorlesungen zählen, reicht die Leistung meiner Hörgeräte aber nicht aus, um der sprechenden Person folgen zu können. Deshalb bin ich auf unterstützende Infrastruktur angewiesen, oder darauf, dass die Dozierenden mein spezielles, direkt auf die Hörgeräte sendendes Mikrofon tragen.

Hilfsbereitschaft und Technikmängel

Als ich an der ETH mein Studium in interdisziplinären Naturwissenschaften begonnen habe, war ich zunächst positiv überrascht von den Hilfestellungen, die geboten wurden. Es gibt eine Beratungsstelle fürs Studium mit Behinderung, alle Hörsäle sind mit Infrastruktur zur Unterstützung schwerhöriger Studierenden ausgestattet und die Übungsleiter*innen haben kein Problem damit, in den Seminarräumen mein Spezialmikrofon zu tragen. Leider folgte dann bald Ernüchterung. Es stellte sich heraus, dass viele der Unterstützungstechniken unausgereift waren. So konnte ich beispielsweise in einem Hörsaal nichts mehr hören, wenn ich den Kopf senkte, was echt unpraktisch ist, wenn man Notizen machen möchte. Zudem wurde die Funktionstüchtigkeit der Anlagen nicht regelmässig überprüft, weshalb es bei der ersten Vorlesung in einem neuen Raum Glückssache war, ob ich etwas hören konnte oder nicht. Deshalb ging ich dazu über, die Infrastruktur in den meisten Sälen gar nicht mehr zu benutzen und stattdessen den Dozierenden von Anfang an mein Spezialmikrofon zu geben, was meist gut funktioniert hat. Ich durfte die Erfahrung machen, dass ETH-Mitglieder sehr hilfsbereit waren, wenn ich ein Anliegen bezüglich meiner Schwerhörigkeit hatte. Die einzige

Timo Stühlinger, 24,

beginnt gerade seinen PhD in Biochemie und in schwer verständlichen Gesprächen folgt er oft der Devise: «Lächeln, nicken und hoffen, dass es keine Frage war.»



«Ich durfte die Erfahrung machen, dass ETH-Mitglieder sehr hilfsbereit waren, wenn ich ein Anliegen bezüglich meiner Schwerhörigkeit hatte.»

Ausnahme stellte ein Professor dar, der sich nicht nur weigerte, das Mikrofon zu tragen, sondern mir auch keinen Grund dafür nennen konnte.

Auf dem Weg zu einer inklusiveren ETH

Nebst der Hilfsbereitschaft der Menschen bin ich auch vom Programm «Hindernisfreiheit an der ETH» begeistert. Das Programm, welches seit 2020 läuft und der Nachfolger des gleichnamigen IST-Erfassungsprojekts von 2018 ist, kümmert sich in 14 Subprogrammen darum, dass die ETH inklusiver für Menschen mit Beeinträchtigung wird. In dieser Zeit hat das Programm schon einiges bewirkt. So werden etwa die Unterstützungsanlagen inzwischen regelmässig auf ihre Funktionalität überprüft. Auch die Ausstattung mit rollstuhlgerechten Tischen ist weit fortgeschritten. Es gibt aber noch viel zu tun, denn Hindernisse für Personen mit Beeinträchtigung gibt es an den verschiedensten Orten, was Studierenden, die selbst nicht betroffen sind, oft gar nicht auffällt.

Weitere Informationen zu «Hindernisfreiheit an der ETH» findest du hier:
<https://ethz.ch/staffnet/de/news-und-veranstaltungen/hindernisfreiheit.html>

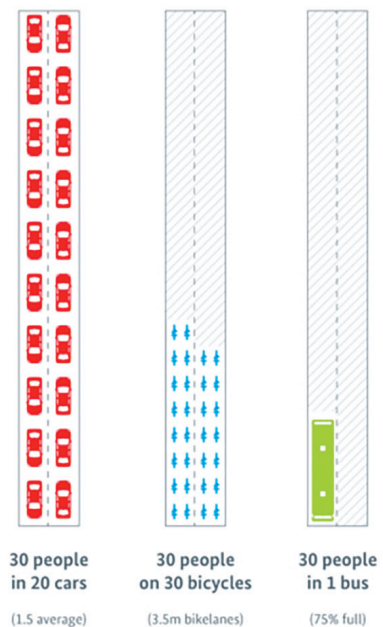


A spectre of human-friendly Urbanism is haunting Europe

The Start of an Urban Revolution

For more than a hundred years, private motor vehicles have been a driving force of urban development. However, some European cities have begun to foster pedestrianism and cyclability over automotive transport. A redistribution of street space could alter the way we inhabit cities.

A spectre is haunting Europe – the spectre of human-friendly urbanism. An increasing number of city councils is putting the hegemony of the car in cities into question, often supported by a significant portion of the local urban population. The current mayor of Paris, Anne Hidalgo, was elected to office for her ambitious plan to create a better cycling infrastructure and green spaces in France’s capital. Even Hannover, a city once praised for its rapid adoption of motorways in the seventies, has welcomed a proposal to redesign its entire centre as a space for humans. These upcoming revolutionary notions have sparked my interest in urbanist design and policies. I would like to share why the idea of walkable and cyclable urban spaces has become important to me. It could help solve some of the challenges faced by cities and greatly benefit the well-being of their inhabitants. To grasp the human-friendly urbanism movement, one must first understand the history of car-centric development and why it has apparently reached a dead end.



Arthur Odnoralenko, 20,

Environmental Engineering BSc, would love to see Zurich become a proper cycling city where everyone feels safe riding their bicycle.

Individual motor vehicles require the most street space of any transport type – and end up sitting on a parking lot most of the time anyways.



The Limits of Automobilmism

The age of automobile realism in Europe likely began after the Second World War, when the post-war population growth demanded rapid reconstruction and urban expansion. Coincidentally, industrial means of production had made cars affordable to an increasing number of people. Individual motorised transport was popularised as a symbol of progress by contemporary architects and urbanists, such as the Swiss modernist Le Corbusier. Across Europe, cities were made accessible to drivers by wide asphalt roads and shining concrete motorways.

Conversely, even the most prestigious automobile age developments have brought massive issues, namely congestion and air pollution as well as danger to pedestrians and cyclists. Cars are the least efficient mode of mass transport for humans and require a disproportionate amount of space and energy for locomotion. To make matters worse, expanding motor vehicle infrastructure often motivates even more people to drive out of convenience instead of alleviating congestion. According to Wikipedia, this phenomenon has been known since the thirties as «induced demand». Why, then, did cars attain their dominant position in cities, despite their numerous drawbacks? The automobile's unmatched convenience, its association with social status, and the manufacturer's lobbying are likely to be key factors. Now it is time to look at the alternatives.

Proposals for better Streets

To quote an xkcd webcomic panel: «Anything that makes a city a worse place to drive in makes it a better place to live, short of scattering random tire spikes on the road». While this is a radical statement, the dictum of human-friendly cities is traffic calming. Restricting vehicle speeds and volume flow will encourage people to walk or cycle as streets become less crowded by cars and thus less dangerous. However, entirely car-free urban landscapes are hardly possible since city services, goods transport and craftspeople require motor vehicles for their work. Urban planners inevitably must balance the interests of various participant groups. The Netherlands have an entire national bicycle traffic guideline, including standards for managing conflicts with other street users. Curiously, their guideline prioritises cyclability and pedestrian safety over automobile accessibility and travel speed. In Dutch cities, cars are in theory routed away from the centres onto the surrounding ring roads, compelling drivers to make a detour but avoiding congestion. Furthermore, smart engineering solutions like separate paths for bicycles, continuous sidewalks at crossings and narrow lanes to slow down drivers ensure the safety of traffic participants without requiring complex regulations. Contrasting this to Zurich's hazardous patchwork of bicycle gutters and streets overburdened by cars, does make me a bit jealous. The Dutch solutions have indeed inspired some projects in other European and even American communities, but many similar proposals face strong political headwind.

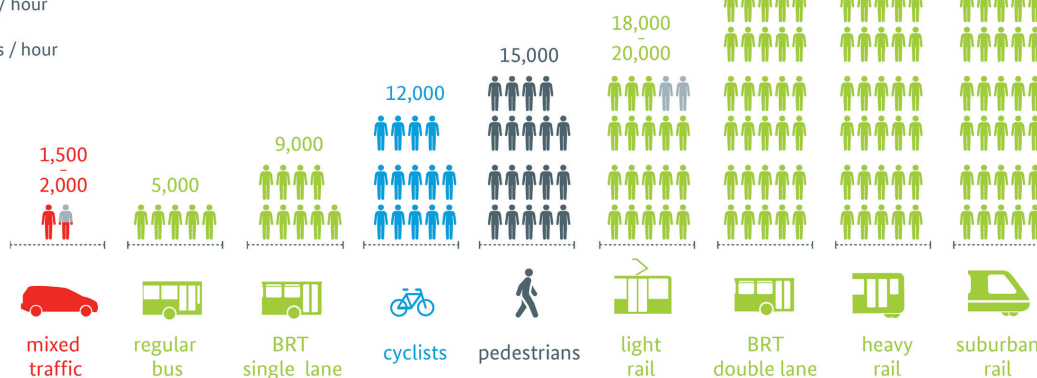
activism can generally be attributed to the left political spectrum. Meanwhile, centre-right and market liberal groups have lamented the disappearance of parking lots and the dismantlement of driver's freedom. Policies and urban infrastructure aimed at restricting motorised movement will certainly seem imposing to drivers. Granted, I, as a stereotypical left-leaning person without a driver's license, wonder greatly why motorists insist on spending a large portion of their time nervously idling in urban traffic. Passively working out while cycling or reading a book on a tram seem like a clearly superior alternative to me. Additionally, which of the following appears most pleasant when lining a street: Tree planters and benches, a coffee shop patio or a row of parked cars? Creating cycle paths and restricting motor vehicles will obviously not remedy all problems in cities; bicycle traffic can incidentally also suffer from induced demand and clog dedicated parking spaces. Still, I would advocate to rethink city streets as public spaces for walking, cycling and living instead of them primarily belonging to a minority in unwieldy metal boxes.

Passenger Capacity of different Transport Modes

Passengers per hour on 3.5m wide lanes in the city

👤 = 1,000 average passengers / hour
 👤 = 1,000 potential passengers / hour

Most cars use only a fraction of their seating capacity. Cycling commutes already are far more efficient, not to mention the insane numbers of rail-based public transport.



Beware of Politics

The pressure from its citizens in the eighties was the main motivator behind the Dutch government's focus on bicycle mobility and public transport. Bi-cycle and pedestrian

Image: <https://creativecommons.org/licenses/by-sa/4.0/deed.en>



Die Geburt des Polykums

Aller Anfang ist schwer. Da macht das Polykum keine Ausnahme, dessen erste Ausgabe vor knapp 31 Jahren, am 22.10.1992, herauskam. Mit Anja Pauling, ehemals Mitglied des VSETH-Vorstands, und Pia Thür, Redaktorin der ersten Stunde, hat unser Autor über die zuweilen turbulenten Anfänge des Polykums gesprochen.

Pia, du warst von der ersten Probeausgabe, der sogenannten «Nullnummer», an beim Polykum in der Redaktion tätig. Anja, du bist etwa ein Jahr später dazugekommen und warst im Vorstand des VSETH für das Polykum verantwortlich. Wie habt ihr diese Zeit erlebt?

Pia Thür: Das war sicher eine sehr chaotische Zeit. Die Trennung von der ZS (Zürcher Studierendenzzeitung) war noch frisch und alles musste sehr schnell gehen. Ich wurde damals mit einem 50% Pensum als Leiterin der Redaktion in einer 50% Stelle vom Vorstand des VSETH angestellt und war für Vieles zuständig: Erarbeiten eines Gestaltungskonzepts, Planung und Koordination der Zeitung, Schreiben von Artikeln, Fotografieren, das finale Layout Erstellen, Druckabgabe – schlicht für alles, was anfiel. Ich wurde von meiner verbliebenen Redaktionskollegin tatkräftig unterstützt, nachdem die zweite studentische Redaktorin – um das Drama noch etwas zu steigern – in der ersten Woche gekündigt hatte. Es war eine unglaubliche Herausforderung: Innert drei Wochen musste die erste Ausgabe gedruckt vorliegen. Ich hatte zwar schon Erfahrung aus Kulturprojekten, aber das Polykum war mehr und wilder als meine vorherigen Arbeiten. Das macht man wohl nur, wenn man jung und naiv ist.

Anja Pauling: Ich bin etwas später dazugekommen und war im Vorstand des VSETH für den Bereich «Information» und somit für das Polykum zuständig. An-



Die erste Ausgabe des Polykum erschien vor knapp 31 Jahren.

ders als Pia, die angestellt war, war ich noch im Studium und hatte nur wenig Zeit. Im Nachhinein waren wir vom Vorstand wohl auch etwas naiv – wir hatten wirklich wenig Ahnung. Dennoch haben wir ein sehr enges Verhältnis im VSETH-Vorstand und zur Redaktion gehabt. Das war auch wichtig, schliesslich ist das Polykum damals alle 14 Tage erschienen.

Sehr aufwühlend war sicher die Episode im Sommer 1993, als die Leitung der ETH zusammen mit dem Ringier Verlag ein eigenes Magazin für ETH-Angehörige inklusive Studierende plante – also eine direkte Konkurrenz zum Polykum. Das wurde erst bekannt, als plötzlich eine Nullnummer überall auflag. Wir haben uns erfolgreich gegen diese Initiative zur Wehr gesetzt, nicht zuletzt, weil die Qualität zu wünschen übrig liess.

Pia: Das war wie ein zweiter Anfang für das Polykum. Der erste war schon schlimm, aber der zweite war dann richtig heftig.

Für euch war vieles neu und herausfordernd. Wie hat diese Arbeit euren späteren Werdegang geprägt?

Anja: Für mich war das sicher ein erster Kontakt zur «echten Welt»; zu lernen, wie Dinge zusammenspielen – etwa in den Gremien der ETH – und Teamwork und Verantwortung zu übernehmen. Wir haben damals viele Dinge «feuerwehrübungsmässig» machen müssen, weil der Hauptfokus ja nach wie vor dem Studium galt. Danach habe ich mir gedacht, wenn ich das gemeistert habe, kann eigentlich nichts mehr kommen, dem ich nicht gewachsen bin.

Pia: Die Zeit beim Polykum hat gut in meinen Werdegang gepasst. Ich habe danach Visuelle Kommunikation studiert. Was ich dabei vor allem lernen musste, war, Dinge auch einmal nicht sofort fertig zu stellen, sondern spielerisch und forschend anzugehen. Beim Polykum musste immer alles zack-zack gehen und erledigt werden. Das war eine ziemliche Umstellung. Aber es war definitiv eine Zeit, in der ich sehr viel gelernt habe.

Lukas Valentin Graf, 27,

Doktorand in Agrarwissenschaften, fand es sehr spannend zu erfahren, was so alles an der ETH passiert ist, noch bevor er geboren wurde.



"Give yourself grace"

New Semester, New Me

The semester is just kicking into high gear and all of us are desperately trying to hold on to the typical resolutions that accompany the start of the term. In this article, the author reflects on what it takes to navigate the next couple months with self-awareness and balance, reminding you to give yourself the grace and flexibility you deserve.

By the time you read this, the semester will already be in full swing. The first classes will have been dropped and exercise sheets left unsolved. To all returning students: welcome back! To all new students: may the odds be ever in your favour!

Anna Heck, 26,

MSc Applied Mathematics, is thoroughly enjoying being a master's student and seeing all the first years around campus (mostly glad that she is not one of them).

All jokes aside, the new academic year usually comes with the typical resolutions - go to every lecture, solve all the exercise sheets, go to all exercise sessions, take all your notes by hand - the list could go on forever. I was no stranger to this until not long ago. What changed? I realized that these goals are simply not sustainable. There will be weeks where keeping up all these habits will not be doable, and you will feel bad about yourself and possibly keep up with your work even less. Instead, opt for a goal that is not strictly tied to a success metric. "Give yourself grace", "to the best of my abilities" etc. My advice to you is to honestly sit down with your timetable and figure out where you can make concessions. Maybe one lecture is not that great, or there are no bonus

points on exercise sheets. Figure out where you can cut yourself slack when life gets busy, or you are overwhelmed. This advice goes especially to those of you with any chronic illness (be that mental or physical) or disability (visible or not - all deserve rest and your attention).

Once the academic life is figured out, you then remember that you are supposed to make friends somehow. There are numerous possibilities for that - in courses or in the ASVZ or some other extracurricular activity, maybe even outside ETH - who knows! It is always a good idea to avoid being too strong with the ETH ego. Every year, there are some first years who think they are Einstein (or whoever is the most mythically genius person in their field) reborn because they received top marks in their Matura or Abitur. Spoiler alert: you are not. So please don't act like it. It is a bit silly. Also, to all second years: it is not a good idea to introduce yourself to new people with your Basisprüfungsschnitt and to ask them for theirs first thing. I am not making this up, unfortunately and I have seen this happen.

Now to our first years: my introduction has (intentionally) played into the whole "ETH is super hard and the first year is there to weed out students since there cannot be stricter application requirements (for Swiss students)". This is true (as far as I am aware). However, it is not a reason to go into this thinking you cannot pass at all. If you go your entire first year working a ton and thinking you cannot pass, you will likely not. The important bit of the first year is also figuring out if you want to do this for the next 4 or 5 (or 6 years) or if this is the right university for you. It does not make you bad at your field just because ETH is not the place where you thrive. Also, many students might realize that their subject is just not exciting enough even when they excel at it. Then, by all means, do something else. Realizing that this program is not for you is fine. I know plenty of people who look back and think that a different program might have been better suited for them.

On that note, I hope the rest of your semester goes well and you may pass all your exams and/or projects in the coming weeks and months!





A Midwife for a CRISPR Baby?

If you ever think about natural birth at all, you probably picture a hospital room out of a tense *Grey's Anatomy* episode – complete with complications, vaginal tearing, and incisions the locations and specifics of which you prefer not to think about. Midwives probably aren't in your mental picture. They should be. They represent the oldest historically female-dominated scientific profession. And it's their involvement that lowers the risks of those horror TV show terms becoming reality.

Before writing this piece, my rough guess was that midwives were chronically underappreciated members of medical teams. I am a single child born of a cesarian. Due to my troubled and almost life-ending birth, I had to be taken out surgically, as my heart rate had sunk after hours of unsuccessful natural birthing attempts. Writing this – a mere week of research later – I know that my guess was very wrong. My thoughts were archetypal to the kind of dismissal midwives sadly often get from the general public.

Old Testament Heroes

Now, let's go back a couple of thousand years. During the Greco-Roman era, midwifery was a separate, respected, paid, and scientifically acknowledged profession. In Old Testament times, the professionalization of midwives continued, and the respect afforded to them was such that two representatives of the profession – Shiphrah and Puah – get featured in Exodus, heroically preventing the genocide of male Hebrew babies.

All good and well. But you can probably easily guess what happened in more recent history. Indeed, midwives weren't spared their dose of religious hysteria. During the High Middle Ages, they were lumped together with other women unfortunate enough to know something about science or medicine, labeled heretics and/or witches, and subsequently either burned alive or hanged. In several Asian and South American cultures, midwifery was a profession reserved for the poor and underprivileged. Slightly later, in the United States, it would be a job commonly carried out by female African slaves – only to be slowly replaced, in the course of history, by formalized (and, of course, male-dominated) practice of obstetrics.

"Midwife", as I also learned, means "the one who accompanies the mother," with "wife" referring not to the person assisting birth, but to the mother herself. (So, no, contrary to an intrusive nagging thought of mine, male midwives aren't "midhusbands," at least until the English language gets sufficiently modernized to take into consideration genderqueer people giving birth.) But those "midhusbands" are few and far between. When I say that 99% of midwives are women, it's no exaggeration. It's statistic from the year 2020 by The University of Washington's School of Nursing. Why? History and Religion. In many cultures, childbirth has always been a semi-sacred process, surrounded by both stigma and myth, making it hardly surprising that women, taught by women, were left to assist other women.

Still relevant in the age of Marvel

So – you'll ask – haven't midwives become a relic of the past with the advent of modern medicine? The compounded empirical observations and basic biology that counted as science in Shiphrah's times can't be won't be of much help, now that we have ultrasound and can genetically edit our babies? Not so fast.

In the United States, certified nurse midwives will have completed nursing school and have a graduate degree in midwifery. Nowadays, midwifery combines scientific evidence and analysis with knowledge of natural medicine practices. The woman behind the advent of modern midwifery practices, certification, and education – Ina May Gaskin – hardly qualifies as a stereotypical believer in "alternative medicine". She got a bachelor's degree in English Literature and worked for the Peace Corps, prior to starting her search for better childbirth practices following the very unpleasant delivery of her first child. In her search for answers, Gaskin spoke of childbirth from a humane – rather than the then usual dry clinical – standpoint. She also popularized a technique learned from Guatemalan midwives – positioning the patient on her hands and knees to deliver a baby whose head

x. Wullschleger, 21

currently studying STEM at ETHZ, and is secretly many people in a trench coat

is already out, but one of the shoulders becomes stuck behind the mother's pubic bone. This maneuver (the first to be named after a midwife, Gaskin, rather than a medical doctor) has been found to be over 80% effective and is still a standard procedure in case of obstructed delivery.

As Nadine Navy, a recently qualified midwife in the UK with a YouTube channel and a quirky Instagram account entitled "Fashionable Midwife", points out – her career enables her to empower vulnerable women by passing on knowledge and resources. Yes, it is stressful, she works long hours, gets a minimal salary, and yet definitely feels that she is making a difference. Even though you might not hear or think about them, midwives do make a substantial difference: even though about 5'800 of the 87'338 births in Switzerland in 2022 were carried out with midwives – rather than an ob/gyn practitioner – only, 78'500 of those births involved follow-up support by midwives, with an average of 7.7 visits by a midwife per woman.

Where geographical, financial and cultural barriers make access to healthcare difficult to impossible, the difference midwives make can become, in the words of the Pan American Health Organization one "between life and death". In Latin America, PAHO in collaboration with the Government of Canada has been training over a thousand traditional midwives to supplement their practical know-how with knowledge of common warning signs, recognizing which helps prevent neonatal deaths. Blending ancestral tradition with Western medicine enables these midwives to preserve their people's culture and birthing traditions, render indigenous populations more independent and stronger, while also saving lives.

Wanted: 900,000 midwives

Midwives are heroes. They were among the first women to receive social recognition for their scientific knowledge and have been pillars of communities from the dawn of humanity to this very moment and the future ahead. As long as more humans come after us, we will continue to need midwives. The world currently faces a midwife shortage – with 900,000 midwives missing by some estimates. Faced with a new global baby boom, and in the wake of the pandemic, many midwives have lost their lives to COVID-19 infection or live on, suffering from burnout, exhaustion, or trauma in systems that don't support their needs enough. Midwives often suffer at their workplace as they are rarely involved in policymaking, in spite of their front row position in healthcare. Even high-income countries around the world barely meet a tenth of our demand for midwives, while both low and high-income countries struggle to supply enough of them. The inequalities created through inadequate treatment of female healthcare workers put great pressure on the life-creating, life-preserving, and life-saving workforce humankind desperately needs. To get anywhere close to addressing the shortage we face, there needs to be a gender-transformative reform of current policymaking surrounding education and healthcare, empowerment of more women in STEM studies and politics, and improvement of mental health awareness and public services for profession-related traumatic experiences.

The thumb of my mother's midwife

Throughout my research, one question kept lingering in my mind: Have I, as a child born of a cesarian into a world facing a midwife shortage, truly never encountered one? I remember a blurry old picture kept neatly in a yellowed photo album. A white hospital hallway overexposed from the flash in the middle of a December night, my mother in a gown, pale and sickly, yet still standing firm on her feet – and next to her, a curly-haired blonde woman in her own uniform holding the baby me. I've always known that this loving nurse had been with my mother throughout the whole journey, even in the operating room. She had held my weak newborn self so firmly that she's even left a dark lifelong thumb-shaped mark on my hip. When I first heard my mother's explanations of all this, I hadn't fully understood. Now, touching that dark round mark on my hip, I know who the first human to hold me at my birth was – my mother's hero, my mother's midwife.



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Interstellar (Dust): Story of Our Life

Since September 2022, the HIT building isn't just home to sleek seminar rooms and RiceUp, but also the beating heart of a very ambitious, interdisciplinary, and large ETH project you have very likely not heard of before: Centre for Origin and Prevalence of Life (COPL).

Yes, you read that right. The new center aims to "[bring] together researchers from different disciplines who share a common scientific vision" to investigate "the processes that generate the molecular building blocks for life", but also, intriguingly, to "[quantify] the capability of planetary environments to meet, maintain and diversify conditions for complex life" and "character[ize] the diversity of planetary environments and their ability to host life".

This search for extraterrestrial life (and probing of the building blocks of terrestrial life) is occurring on a scale that is as grand as the undertaking is lofty. 44 professors across 7 departments – D-BIOL, D-BSSE, D-CHAB, D-ERDW, D-ITET, D-PHYS, D-USYS -- and the Paul Scherrer Institute PSI. In fact, the grandeur scales up even further. As of March 2023, ETH is one of the four institutions – together with Cambridge, Harvard, and the University of Chicago – that have announced a research consortium with the goal of "advanc[ing] our understanding of the emergence and early evolution of life, and [poetically] its place in the cosmos."

In spring 2022, I interviewed Didier Queloz¹ – director of COPL and one of the winners of the 2019 Physics Nobel Prize "for contributions to our understanding of the evolution of the universe and Earth's place in the cosmos" for his work on exoplanets. The center was then set to launch officially in several months, and I had asked about the why and the how. The center was intended to investigate, among other things, the matter of life on other planets. And, to Prof. Queloz, the possible answers to the Big



The Pillars of Creation – a Star Nursery

Research Question – what does this mean in terms of detection and detectability? – didn't fit neatly into any of the boxes of existing research fields. One would need to look for these answers through many complementary approaches, e.g., "wet lab" experiments and traveling to Mars to look for traces of chemistry that could be prebiotic. The center would be about enabling a very horizontal research culture, recreating the spirit of a lab, a general experiment, everyone putting their knowledge together.

In this article series, we speak to some of the PIs associated with COPL about their work, habitability, and a bit of philosophy.

Lisa Likhacheva, 23,

is doing a Master's thesis in Biochemistry and often observes interstellar dust under the Hönng linden trees – more informed and inspired by Franz Schubert than concrete astronomy knowledge.

For the first installment, we've spoken to Dr. Veerle Sterken, who studies interstellar dust in the solar system. You may have never heard – or thought – of cosmic dust before, but you've likely seen it prettily block or scatter the light of stars: it is responsible for the darkish patches you sometimes see in the night sky. Even more poetically, we actually are built from interstellar dust. Indeed, when asked about the why of interstellar dust research, Dr. Sterken's first answer was, "from dust to dust."

that is defined by its size, rather than its composition or (historical) origin. Much like household dust. According to the International Astronomic Union, it simply is "particles smaller than 30 micrometers." The origin and the composition of the particles vary. The former are spectacular, and well understood. The variations of the latter are a hot research topic.



The Origins of Origins of Origins

Our universe becomes a dusty universe – a lovely, homely astronomy coinage of the dust field – in different ways.

First, there are the (confusingly named) planetary nebulas – a late evolution stage stars reach upon expanding into a red giant and losing their outer shells. When such nebulae form, elements with high condensation temperatures (silica, metals) can condense into stars and flow into the interstellar space. These planetary nebulas – and diffuse nebulas² formed later in the stars' evolution – help fill the galaxy with elements heavier than iron.

So, what exactly is interstellar dust? Like much about dust, this question rapidly becomes more philosophical than you'd expect. The short answer is: something. Then, there are the cold and dense molecular clouds. Before you picture something fluffy and potentially reflectable in the Zürisee, think of the famous Hubble telescope image of "Pillars of Creation." And allow me to endear those dense, disturbing, crooked 4-to-5-light-years-long³ fingers of gas and dust by reminding you that they are stellar nurseries. In clumps of these fingers' denser regions, gravitational collapse – an object contracting by drawing its own matter in towards its center of gravity – occurs⁴. Gravitational collapse leads to the formation of stars, and some grains of interstellar dust (that have been shielding the cloud from star radiation, enabling molecules to form) get incorporated into this new star, follow its evolution, to let it then produce "new" dust at the end of its lifecycle, as a planetary or a diffuse nebula.

This mythical origin story is part of what makes dust particles – in another one of Dr. Sterken's cozy formulations – windows through which we observe the universe, both past and present. Dust bears traces of the processes that contribute to its lifecycle, such as formation of the solar system and supernova shocks. Dust also lets us observe landscapes outside the very speedy Swiss train that is the heliosphere⁵ – encompassed solar system: we're moving around the Milky Way, at 26 km/s⁶, through various clouds. Unlike in a more conventional train, in ours we get to tell how the landscape outside has changed based on how this landscape – the cloud we're currently in – stretches or shrinks our train. This shrinking – the interaction of the heliosphere with its interstellar surrounding landscape – we can learn more about from observing how dust entering the Solar System (yes, material from other systems enters ours as dust!) travels through the heliosphere.

But dust doesn't just flow through these very Nietzschean cycles of cosmic drama, it also orchestrates some of it. Dust shields molecular clouds from star radiation. The surfaces of dust particles provide nucleation sites for the formation of more complex molecules. And, in a slightly speculative twist, it has even been suggested that it may have been responsible for a large fraction of Earth's original water, with solar wind oxidizing minerals in dust particles.

¹ Prior to setting foot in the Polykum offices, the author of this column spent 2 years tending to the Exsikkator, the magazine of the Chemistry Students' Association. You may read the rest of that interview with Prof. Queloz – which also features philosophical ponderings on career and life, reflections on scientific conferences as boxing matches, and recipes on correcting what's systematically wrong with the world – here: <https://vcs.ethz.ch/wp-content/uploads/2022/04/Strategie-Exsi.pdf>

² A luminescent part of interstellar medium (which, in turn, is the matter and radiation that occupy space between star systems in a galaxy).

³ 1 light year = 9.461 trillion km (the distance from Earth to the Sun is 149 million km).

⁴ This can happen when a clump reaches a critical mass as a result of random density fluctuations in the cloud, or due to collisions with other clouds, a supernova (a very powerful and very bright explosion of a star, caused by runaway nuclear fusion), or a shock wave from a black hole.

⁵ The Sun generates the solar wind – a constant stream of charged particles – that travels to around 3x the distance of Pluto, is then stopped by interstellar medium, and forms a big bubble that shields the Solar System from galactic rays. This bubble is the heliosphere. And no, we still aren't quite sure what its shape, symmetry, and size are.

⁶ From Switzerland to Belgium in 8 seconds.

Die Geschichte des A

Das Wort «Anfang» beginnt (immerhin auf Deutsch) mit dem ersten Buchstaben des Alphabets, dem A. Das A steht am Kopf des lateinischen Alphabets, und zwar in allen Sprachen, die dieses benutzen. Es ist auch der einzige Buchstabe, der in allen, aber wirklich auch allen, sprachspezifischen Varianten des lateinischen Alphabets vorkommt. In einer erlebnisreichen Reise hat das A von Mesopotamien über Phönizisch, Hebräisch, Griechisch, Etruskisch und Lateinisch schliesslich in seiner heutigen Form und Aussprache zu uns gefunden.

Bevor sich überhaupt ein Alphabet entwickeln konnte, musste das Konzept der Schrift entstehen. Ein Schriftsystem zeichnet sich dadurch aus, dass es die gesprochene Sprache mitsamt ihrer Bedeutung wiedergibt. Somit kann Information gespeichert und anschliessend an eine Person, die räumlich und/oder zeitlich von dem Verfasser des Textes entfernt ist, weitergegeben werden. Die ersten bekannten und belegten Beispiele von Proto-Schrift stammen aus Mesopotamien, aus dem 4. Jt.v.Chr. Gefunden wurden kleine Kalksteintafeln mit Listen und Notationen in sogenannter Proto-Cuneiform. Dabei handelt es sich nicht um ein Schriftsystem per se, sondern eher um Piktogramme. Aus diesen Piktogrammen und deren phonetischen Übersetzungen entstand allmählich die Cuneiform (Keilschrift). Ungefähr zeitgleich, aber wahrscheinlich unabhängig davon, entstanden nach demselben Prinzip in Ägypten aus einfachen Piktogrammen die Hieroglyphen. Die Hieroglyphenschrift war sozusagen ein Proto-Alphabet, da bestimmte Symbole bestimmten Lauten zugeordnet wurden. Jedoch setzte es sich noch immer teilweise aus Piktogrammen und Logogrammen zusammen, und war somit noch kein reines Alphabet.

Von Abbild zu Alphabet

Aus den Hieroglyphen entwickelte sich dann im 15. Jh.v.Chr. die protosinaitische Schrift, das erste rein phonemische Skript. Es verwendete die Symbole der Hieroglyphen in Kombination mit den Lauten der kanaanitischen Sprache, die von dem kanaanitischen Volk in Ägypten

gesprochen wurde. Demnach wurde dem Symbol «Ochse» die Bezeichnung \aleph («Ochse») und somit der Laut /ʔ/ (ein Guttural) zugeordnet. Aus dem Symbol «Haus» wurde Bet und daraus der Laut /b/, usw.

Die protosinaitische Schrift entwickelte sich zur protokanaanitischen Schrift und anschliessend im 9. Jh.v.Chr. zur phönizischen Alphabet, das generell als das erste richtige Alphabet angesehen wird. Um genau zu sein, handelt es sich um ein «Abjad»/«Abdschad», wo zwar jedem Zeichen ein Laut zugeordnet wird, jedoch nicht jedem Laut ein Zeichen. Besonders fehlen explizite Zeichen für Vokale. Das Phönizische Alphabet ist die Grundlage der heutigen hebräischen, arabischen, griechischen und lateinischen Alphabete. Geschrieben wurde es von rechts nach links. Im phönizischen Alphabet wurde der Ochsenkopf zu dem Symbol \aleph stilisiert, wobei seine Rolle als Guttural beibehalten wurde. Im Hebräischen wurde daraus später der Buchstabe Aleph א, im Arabischen der Buchstabe Alif ا. In beiden Sprachen repräsentiert das Zeichen einen Guttural, und sie erhalten auch eine Rolle als «Matres Lectionis», d.h. Konsonanten, die einen Vokal repräsentieren können.

Das A und Ω

Im Laufe des 8. Jh.v.Chr. wurde das phönizische Alphabet von den Griechen übernommen. Die griechische Sprache hatte schon ein paar verschiedene Schriftsysteme erlebt, unter anderem die Silbenschrift Linear B, aber diese waren verloren gegangen. Durch die geographische und diplomatische Nähe von Griechenland und Phönizien wurde der Austausch der Alphabete begünstigt.

Die meisten Buchstaben wurden mit ähnlichen Lauten und Zeichen direkt übernommen. So wurde aus dem Bet das Beta Β, oder aus

Léona Dörries,

B.Sc. Biochemie – Chemische Biologie, bereut es manchmal, dass sie nicht Linguistik studiert.

Hieroglyph	Proto-Sinaitic	IPA value	Reconstructed name	Proto-Canaanite	Phoenician	Archaic Greek	Modern Greek	Etruscan	Latin
		/ʔ/	'alp "ox"						
		/b/	bayt "house"						
		/g/	gaml "throwstick"						
		/d/	dag "fish"						
		/h/	haw/hillul "praise"						
		/w/	waw/uph "fowl"						
		/z/	zayn/zayt "sword"						
		/ð/	diqq "manacle"						
		/h/	ħaṣr "courtyard"						
		/x/	ħayt "thread"						
		/j/	yad "hand"						
		/k/	kap "palm"						
		/l/	lamd "goat"						
		/m/	maym "water"						
		/n/	naħaś "snake"						
		/ʕ/	'ayn "eye"						
		/y/	ġabi "calyx"						
		/p/	p'it "corner"						
		/k'/ or /q/	qoba "needle/nape/monkey"						
		/r/	ra'ś "head"						
		/ʃ/	šimś "sun"						
		/h/	šadeh "field, land"						
		/b/	lann "bow"						
		/t/	tāw "mark"						
N/A									

Ein grober Überblick über die Evolution des Alphabets

dem Lamed das Lambda. Da sich aber die griechische und phönizische Sprache phonetisch voneinander unterschieden, wurden manchen Buchstaben neue Laute zugeordnet. Zum Beispiel hatte Griechisch keine Gutturale, also wurde aus dem Alef das Alpha A, nun aber mit dem Laut /a/. Ebenso wurden die anderen Gutturale zu Vokalen umgewandelt. Dadurch wurde das Griechische zu einem vollen Alphabet, im Gegensatz zu den bisherigen Abjads. Ausserdem wurde zwar die Schreibrichtung rechts-nach-links grob beibehalten, aber es entwickelte sich das «Boustrophedon», wo eine Zeile von rechts geschrieben wurde, die nächste von links usw., im Zick-Zack. Die vier phönizischen s-Laute wurden alle kondensiert, und zwar in das Sigma Σ, das heute noch existiert, und in das San, welches es heute nicht mehr gibt. Aus dem phönizischen Qoph wurde das Qoppa, das im heutigen Griechisch auch verloren gegangen ist, aber davor ins Etruskische Alphabet übernommen wurde.

Times New Roman

Das auf der italienischen Halbinsel angesiedelte antike Volk der Etrusker wurde im Laufe des 8.Jh.v.Chr. von den euböischen Griechen in Cumae kolonialisiert. Das euböisch-griechische Alphabet wurde dabei in den folgenden Jahrhunderten von den Etruskern übernommen. Wie immer der Fall bei solchen Adoptionen wurden die Buchstaben und Laute wieder etwas gemischt und daraus entstand die altitalische Schrift. Dort stand immer noch das A an der Spitze. Die Schreib- und Leserichtung war frei.

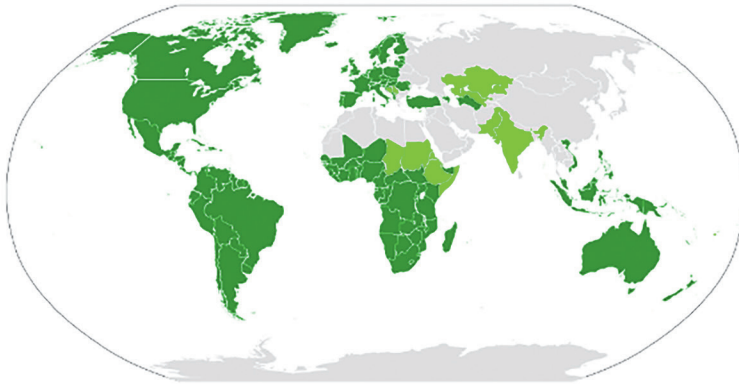
Als die Lateiner/Römer die italienische Halbinsel eroberten, adoptierten sie wiederum das Alphabet. Die Leserichtung wurde auf links-nach-rechts fixiert. Das originale lateinische Alphabet sah nun folgendermaßen aus:

ABCDEFZHIKLMNOPQRSTVX

Das V wurde als /u/ gesprochen. Das Q entstand aus dem vorher erwähnten Qoppa. Das Z ging im Laufe der Zeit verloren und durch G ersetzt. Das K wurde nur noch aus historischen Gründen beibehalten. Im 1. Jh.n.Chr. wurden nach der Eroberung Griechenlands

Die ersten bekannten und belegten Beispiele von Proto-Schrift stammen aus Mesopotamien, aus dem 4. Jt.v.Chr. Gefunden wurden kleine Kalksteintafeln mit Listen und Notationen in sogenannter Proto-Cuneiform.





Verbreitung des lateinischen Skriptes (Grün: Hauptskript, Hellgrün: Zusätzliches Skript)

durch Rom Y und Z neu- bzw. wiedereingeführt und angehängt, um das klassische lateinische Alphabet zu ergeben.

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Eine grosse Veränderung bei der Latinisierung des Al-

phabets war die Umbenennung der einzelnen Buchstaben. Während Griechisch noch die alten, ursprünglich Semitischen Namen verwendete (Alpha, Beta, Gamma, ...), wurden die lateinischen Buchstaben nur noch mit ihrem Laut bezeichnet (A, O, U, ...) oder mit einem Hilfsvokal (Be, De, Ka, ...).

Eine Abnahme in der Höhe

Nun gab es bisher nur Grossbuchstaben. Kleinbuchstaben entstanden erst viel später, und zwar im Mittelalter aus der römischen Kursivschrift via die Unziale beim Schreiben von Manuskripten. Daraus entstanden die Minuskelschriften, insbesondere die Karolingische Minuskel, die sich rasch in Europa verbreitete, woher auch die Form des Buchstaben A als a stammt. Später wurden die römischen Majuskeln wieder eingeführt und es ergab sich die Mischschrift, die wir heute noch verwenden.

Abschluss

Somit hat der erste Buchstabe des lateinischen Alphabets heute bei uns zwei Formen: A und a, deren Geschichte zurück bis zu den Anfängen der Schrift verfolgt werden kann. Aktuell ist das lateinische Alphabet, mit zahlreichen Modifikationen, welche je nach Sprache variieren, das weltweit meistverwendete Schriftsystem. Somit ist das A überall anzutreffen. Seine einfachen drei Striche verbergen seine komplexe Herkunft, seine Funktion jedoch bleibt nach wie vor erhalten.

Da für alle.

Weil einer von zwölf einmal in seinem Leben auf die Hilfe der Rega angewiesen ist.

Jetzt Gönner werden:
[rega.ch/goenner](https://www.rega.ch/goenner)





Beyond is
where we begin.

From ETH to Consulting

with Hjördís, Associate at BCG Zurich

Plato once said, “The beginning is the most important part of the work.” Hjoerdis Baldvinsdottir, a recent master’s graduate in Statistics from ETH, shares her thoughts on starting her career at Boston Consulting Group (BCG).

How did you first hear about BCG?

I stumbled upon the world of consulting at the BCG al Lago event in Ticino. Going in, I did not know much about consulting, but the experience turned out to be highly insightful and enjoyable. We got the opportunity to work through a real-life case study, with fun events in the evenings.

What really stood out to me were the people—the BCG team and the other attendees. There was a genuine, positive energy that made me think, “This could be a place for me.”

What led you to join BCG?

The BCG al Lago event initially piqued my interest, but what sealed the deal were my subsequent conversations with BCG employees. These discussions not only confirmed my initial impressions but also emphasized that a role at BCG would be an invaluable first step into any career. With diverse industry exposure, a dynamic work environment, and a core focus on problem-solving, BCG stood out as a unique opportunity, especially since I was uncertain about which career path to take after ETH.

What were your expectations before joining?

I went in expecting a fast-learning curve. I wanted to expand my horizons quickly and delve into topics I hadn’t encountered during my academic journey. BCG did not disappoint, as they invest a lot in training and onboarding, and there is a strong focus on continual growth.

What stands out for you at BCG?

What I appreciate about BCG is the emphasis on individual growth, the high energy of the people, and the fast pace. It is truly inspiring to see how quickly things can get done within the teams, and the relationships that you build in a fast-paced environment such as this are truly priceless.

Do you have any advice for future candidates?

If you’re contemplating applying, don’t second-guess yourself based on what you assume BCG might be looking for. From my experience, BCG is open to different skills and ways of thinking, so you might fit in better than you imagine.



Do you want to learn more? We hire passionate, open-minded, and accomplished students with a background in STEM, natural sciences, and humanities. Participate in one of our recruiting events to get to know us or apply directly at:
<https://careers.bcg.com/locations/switzerland>



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goes | hosts | supports

Cultural Calendar

The Kulturstelle gives you access to the best of culture Zurich has to offer – and at student-friendly prices. Would you like to spend an evening at the theater? Curious what a classical-music concert sounds like? Looking for date ideas? Want to spend an interesting evening with friends or meet new people who are as crazy about Brecht, Beethoven, and/or ballet as you are? The Kulturstelle has got it all planned for you.

Book your ticket at www.kulturstelle.ch/en/events/.

*Saturday, 4 November | 20.00 | Theater
Neumarkt | Kulturstelle Tickets at 10 Fr.*

BULLET ZEN: AN EVENING ABOUT DOPAMINE, TERROR, AND MEDITATION. PREMIERE!

„bullet zen“ tells the story of two disparate ways of life. on the one hand is the violence-glorifying, wealth- and power-seeking culture of the narcos, on the other the ascetic philosophy of zen. solely the pistol, a swiss sig p220, which the narco points at his counterpart in a daily ordeal, seems to be their common ground. the monk knows it from the swiss army. the bullet in the barrel becomes the starting point of a tentative rapprochement whilst also threatening to put a sudden end to it.

www.theaterneumarkt.ch/en/kalender/bullet-zen/

*Wednesday, 8 November | 19.30 | Tonhalle
Kulturstelle Tickets at 15 Fr.*

A RACHMANINOV EVENING WITH GIANANDREA NOSEDA AND FRANCESCO PIEMONTESE!

To commemorate Rachmaninov's 150th birthday, the Tonhalle and the Opernhaus organize a Rachmaninoff cycle involving both houses and several renowned soloists. Experience the next instalment first-hand. Gianandrea Noseda, the General Music Director at the Opernhaus, conducts the Tonhalle orchestra in a program you likely haven't (often) heard before: the First Symphony and the 4th Piano Concerto, which Francesco Piemontesi is said to be particularly fond of.

<https://www.tonhalle-orchester.ch/konzerte/kalender/gianandrea-nosedamit-rachmaninow-1747242/>

Saturday, 11 November | 20.00 | Tanzhaus Zürich | Kulturstelle Tickets at 5 Fr.

THINGS VEER BY COSIMA GRAND

Almost mechanically, four performers tread invisible paths. In a kind of emotional formalism they tune into each other, circle, rotate, accelerate and slow down. There are no straight lines, nothing progresses without swerving or veering. With loudspeakers attached to their bodies, the performers move the sound in the space and are moved by it at the same time. In doing so, they create a sensory and emotional resonance chamber, a cosmos of vibrating relationships.

www.tanzhaus-zuerich.ch/en/events/things-veer/45425

Tuesday, 21 November | 19.30 | Konservatorium Zürich, Grosser Saal | Kulturstelle Tickets at 25 Fr.

THE NOBEL PRIZE WINNER OLGA TOKARCZUK: READING AND CONVERSATION

„Olga Tokarczuk sits down to read and discuss her newest novel, „Empusion“, a variation of Thomas Mann’s masterpiece „Der Zauberberg“. The conversation will be in Polish (with simultaneous German translation), while the reading will be in German.“

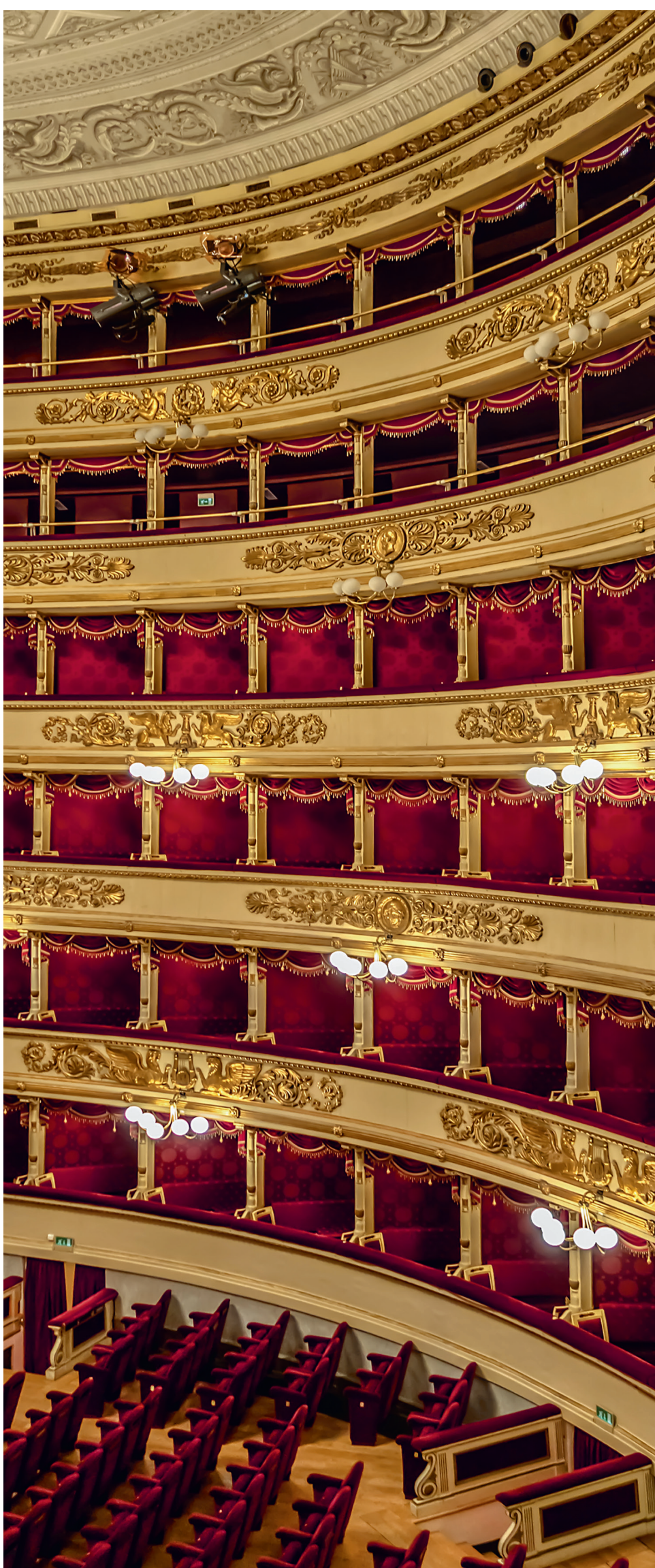
<https://literaturhaus.ch/veranstaltungen/olga-tokarczuk-empusion/>

Saturday, 18 November | 20.30 | Jazz club Moods | Kulturstelle Tickets at 33 Fr.

TAKUYA KURODA

“Takuya Kuroda is considered one of Japan’s leading contemporary jazz musicians. The Kobe-born, New York-based trumpeter is a forward-thinking musician who has developed a unique hybrid sound that blends soulful jazz, funk, post-bop, fusion and hip-hop. In his luggage, Takuya has his latest, and already his seventh, studio album Midnight Crisp (released 2022) which he produced entirely himself and which follows the highly acclaimed album Fly Moon Die Soon from 2020.”

www.moods.ch/en/takuya-kuroda-2023-11-18



4 Billion Years Ago



The shiny spaceship drifted silently through the thick ocean of black clouds that continuously covered the Earth from the shy rays of her Sun. Under the clouds, the rocky land extended endlessly across the globe, and continuous explosions burst from the ground, firing huge masses of dust up in the sky and pouring lava everywhere.

The two passengers of the metal vessel were chatting loudly in the control room while observing the incredible landscape. They were called "the Explorers", and contrary to what this impressive title could suggest, they definitely weren't paid enough for their terrible job.

Their words filled the halls of the ship with echoes, sounding like the creaks of an old wooden house: «This place is a dump! There's absolutely nothin' to be reported. Can we finally leave?», said the pilot to the other one, who apparently was the one in charge. «You know we can't», the other responded, almost annoyed, «we have to complete a full life-form scan. I don't wanna risk any more detraction from the salaries.»

«Those Executive bastards! I just don't get why they sent us down here.»

«Just shut up and drive. We still have to scan the last quarter of this continent and all this humidity is starting to affect my health. I hate this!»

The ship was now flying above a huge volcano. Suddenly, a powerful earthquake shook the ground; tons of magma and tuff spilled all over the area. While enjoying this catastrophic show, the chief began:

«You know, I really don't think that there could ever be anything alive on this stupid rock. The oxygen level in the atmosphere is high as hell, and the temperature...»

«Bloody hot», ended the other one while he reached for the air condition knob. He decreased the temperature a little; they were only at -75°C.

«Not to mention the water?!» the pilot continued, «Have you seen it? That huge puddle is bigger than the ground!»

«Yeah, there's no way. Let's get out of here.»
The ship had finally left behind the arid stone desert and was soaring above the massive blue ocean. The pilot hesitated a bit and then he said:
«Hey, before we go, why don't we discharge the waste deposit?»

«Oh, c'mon! How many times do I have to tell you? We can't leave anything outside the waste areas. It is strictly forbidden by the regulations!»

«Rules, rules, rules. The nearest area is ages away and this carbon trash is starting to burn my senses. We'll have to get rid of that stinky stuff eventually, and what better place than this horrendous planet?»
The chief thought for a couple of seconds. He took a large "sniff", or whatever the corresponding gesture is for a creature of his kind, and then started to feel more and more convinced by the words of his colleague.

«Alright, alright. Quickly throw it in the sea and fire up the engine. We are leaving this unbearable planet now!»

Das ZFF 2023

Am Sonntag ging das Zürich Film Festival (ZFF) zu Ende. Bereits zum neunzehnten Mal fand das Festival statt. Über 130'000 Zuschauer schauten sich die über 150 verschiedenen Filme an. Präsentiert wurden diese Filme in elf verschiedenen Kategorien, davon liefen in acht Kategorien die Filme ohne Wettbewerb. Die drei Kategorien für die Wettbewerbsfilme waren Fokus, Spielfilm und Dokumentation. In allen Kategorien waren die Filme höchstens die dritte Regiearbeit. In der Kategorie Fokus konkurrierten dabei nur Filme aus der Schweiz, Österreich und Deutschland; am Spielfilmwettbewerb und Dokumentationswettbewerb konnten Filme aus der ganzen Welt teilnehmen. Ich hatte das Privileg, mir 22 der 150 Filme anzuschauen und präsentiere euch nun drei Highlights. von Jérôme Bewersdorff



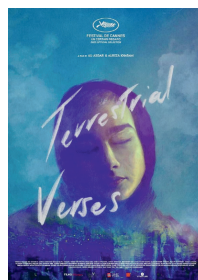
The Zone of Interest (Jonathan Glazer, GB, 2023) in der Reihe Gala Premiere

Jonathan Glazers neuer Film kam mit vielen Vorschusslorbeeren aus Cannes ans ZFF. Den hohen Erwartungen konnte der Film aber auf jeden Fall gerecht werden. Erzählt wird die Geschichte des realen Nazis Rudolf Höss und seiner Familie, welche in einem Haus direkt neben dem KZ Auschwitz lebten. Dabei zeigt Glazer nie das Innere des KZs. Stattdessen beobachten wir 105 Minuten lang lediglich Szenen aus dem Leben der Familie Höss: Wie sie einen Ausflug zum See machen, Freundinnen dazu einladen, zum Kuchen vorbeizukommen, einladen, oder eine

Gartenparty veranstalten. Dabei bleibt Glazer in seiner Darstellung der Familie konstant kühl und distanziert. Die Opfer der Nazis sind dabei für die Familie nur Nebensache: Mal sucht man sich neue Kleider aus, welche den Jüdinnen abgenommen wurden, mal überlegt Höss, wie man mit der Verbrennung effizienter vorgehen könnte. Aussagen, dass man ja alles Wichtige vor der Haustüre hat, unterstreichen diese emotionale Distanziertheit nur noch. Der Film zeichnet ein schockierendes Bild der Nazizeit und ist dabei so kalt, wie ein Film nur sein kann. So zeigt der Film, was Hannah Arendt als die Banalität des Bösen bezeichnet, wie kein anderer.

Terrestrial Verses (Ali Asgari/Alireza Khattami, IR, 2023) in der Reihe Special Screenings

Wir sehen einen Mann, der seinen Sohn gerne David nennen würde, ihm dies jedoch vom Mann am Schalter



verboten wird. Wir sehen eine Frau, die verhört wird, weil sie im Auto ohne Kopftuch fotografiert wurde. Oder wir sehen einen Mann, dessen Vorstellungsgespräch zu einer Religionsprüfung ausartet. Terrestrial Verses sieht an der Oberfläche recht simpel aus: neun kurze Geschichten, in denen wir jeweils nur eine Person sehen und ihren Gesprächspartner nur hören. Doch jedes einzelne dieser Gespräche ist höchst spannend, teils frustrierend und teils witzig. Sie teilen nämlich ein gemeinsames Thema: die Absurditäten des alltäglichen Lebens im Iran. Dabei geht es oft um die Religion, die ins Alltagsleben eingreift, oder um die Stellung der Frau im Iran.

Das Highlight erreicht der Film in der Geschichte eines Regisseurs, der sein Drehbuch stark zensurieren muss, damit er seinen Film überhaupt veröffentlichen darf. In nur 77 Minuten geben uns die beiden Regisseure mit scharfen Beobachtungen einen Einblick in das Leben im Iran, wo man oft nicht weiss, ob man lachen oder weinen soll.

Varvara (Anatol Durbalä, MDA/ROU, 2023) im Spielfilm Wettbewerb

Varvara feierte am ZFF seine Internationale Premiere und trat auch im Spielfilmwettbewerb an. Der Film handelt vom Familienvater Sasha, der in einem Erdgasunternehmen arbeitet. Er geht bei allem dabei immer sehr korrekt vor und weigert sich Geld anzunehmen, um einen Job schnell und unsauber zu erledigen, auch als sein zweites Kind zu früh auf die Welt kommt und er das Geld eigentlich benötigt. Varvara dreht sich dabei vor al-



lem um die Frage, wann das Moralische selbst unmoralisch wird und ob unsere Hauptperson alles nicht auch nur aus einem überhöhten Sinn von Selbstgerechtigkeit tut. Als Sasha dann mit einem korrupten Priester aneinandergerät, öffnet der Film auch eine sehr spannende religiöse Ebene und die Frage nach der «richtigen Handlungsweise» wird noch einmal verschärft. Die cleveren Dialoge und die teils auch sehr witzigen Beobachtungen machen Varvara zu einem grossartigen Film, den man unbedingt sehen sollte.

Aller Anfang... lässt sich leichter machen

Mit dem neuen Semester kommt nicht nur die Freude der neuen Anfänge, sondern auch die Deadlines, der Stress, der immer grösser werdende Schatten der Prüfungen... Aber Polykum begleitet euch mit wertvollen Glücksrezepten durch jede Krise. Ein chemisch begabter Informatiker, eine an Computer verzweifelnde Biochemikerin und ein paar sich in einer Superposition zwischen Informatik und Realleben befindende MTEC-ler zaubern exklusiv für Polykum 4 1/2 budgetfreundliche und metaphysisch-ästhetisch problemlösende Cocktails, mit ausschliesslich im Höngg-Coop erhältlichen Zutaten.



ESPRESSO MARTINI

(URSPRÜNGLICH BEKANNT ALS
«PHARMACEUTICAL STIMULANT»)

3 cl Wodka
3 cl Espresso-Kaffee
0.5 cl Kahlua oder Bailey's
0.5 cl Zucker-Sirup (selber
machen, Schritt 1)
5-6 Eiswürfel

□ Zuckersirup selber vorbereiten: Wasser und Zucker im 1:1 Verhältnis (so viel g Zucker wie mL Wasser) zusammenmischen, aufheizen und 5-10 min (während dem Kaffee machen) sieden lassen. □ Kaffee vorbereiten. □ Warten, bis der Kaffee und der Sirup wenigstens etwas abgekühlt sind. So schmelzen die Eiswürfel nicht sofort und das Getränk verwässert nicht. □ Eiswürfel, Wodka, Kaffee (Achtung heiss!), Bailey's, und Zuckersirup in den Shaker geben. □ Shaker schliessen. 8-10 Sekunden kräftig schütteln. □ Den Inhalt des Shakers in ein Martini-glas umfüllen. Dabei Eiswürfel mithilfe eines Siebs herausfiltern. □ Geniessen (und sofort bereuen, dass man nicht zwei gemacht hat).

von Moritz Teichner und
Lisa Likhacheva, mit weiteren kreativen
Beiträgen von HS, JF, ZE & Co.



X.Y.Z.

Eine leicht alternative Version mit 1.5 cl Wodka, 1 cl Cointreau, 0.5 cl Limettensaft und 5-6 Eiswürfel nennt sich «Kamikaze». Noch eine weitere Variante ersetzt Cointreau mit Curaçao und heisst «Columbus».

FÜR EINE PORTION:
4 cl weisser Rum
1.5 cl Zitronensaft
1.5 cl Cointreau
5-6 Eiswürfel

□ Eiswürfel, Rum, Zitronensaft und Cointreau in den Shaker geben. □ Shaker schliessen und 8 Sekunden kräftig schütteln. □ Den Inhalt des Shakers in ein Martiniglas umfüllen. Dabei Eiswürfel mithilfe eines Siebs herausfiltern. □ Geniessen (und sofort bereuen, dass man nicht zwei gemacht hat).

RAMOS GIN FIZZ

Ein Cocktail dessen Vorbereitung einem erlaubt, sich als begabte*n synthetische*n Chemiker*in den lieben, zu beeindruckenden Gästen zu präsentieren. In anderen Worten: es sieht viel besser aus als es schmeckt.

FÜR EINE PORTION:
4 cl Gin
1 Eiweiss
1.5 cl Zitronensaft
1 cl Limettensaft
1 cl Zucker-Sirup
(siehe Espresso Martini)
1 cl Kaffeerahm
8 cl Sprudelwasser

* Optional Angostura Bitters 4-5 Tropfen
5-6 Eiswürfel

□ Eiweiss vom Eigelb trennen. □ Eiweiss mit einer Gabel schaumig schlagen. □ Eiswürfel, Gin, Zitronensaft, Limettensaft, Zucker-Sirup, Kaffee-Rahm und Angostura Bitters in den Shaker geben. □ Shaker schliessen. 5-6 Sekunden lang kräftig schütteln. □ 1.5 cl des geschlagenen Eiweiss hinzufügen, Shaker schliessen und 10 Sekunden lang kräftig schütteln. □ Den Inhalt des Shakers in ein Martiniglas umfüllen. Dabei Eiswürfel mithilfe eines Siebs herausfiltern. □ Mit Sprudelwasser auffüllen. □ Geniessen (und sofort bereuen, dass man nicht zwei gemacht hat).



MINT JULEP



FÜR EINE PORTION:

5 cl Whisk(e)y
6-8 Pfefferminzblätter
2 Teelöffel von Puderzucker
3-4 Würfel Crushed Ice

□ Pfefferminzblätter waschen, mit Küchenpapier abtrocknen, in kleinem Whisk(e)y-Glas platzieren. □ Puderzucker hinzufügen und das Glas mit Crushed Ice auffüllen. □ Whisk(e)y hinzufügen. □ Mithilfe eines langen Löffels 10 Sekunden lang umrühren. □ Geniessen (und sofort bereuen, dass man nicht zwei gemacht hat).

WODKA + MATE



Das soll man so mischen, wie man will.
 Ein Rezept kann nicht existieren

Ask Your Professor

Have you ever wondered what your professors are like outside the classroom? Or perhaps you've had burning questions about life, relationships, career advice, or the experiences that shaped them into the educators they are today? Welcome to „Ask Your Professor: Beyond Academics“, a new segment in our magazine that allows students to ask professors any question that goes beyond the boundaries of academia!

Nikita Janakarajan, 28,

is pursuing a doctorate at D-INFK and has discovered that professors are humans, just like us!

1. Have you ever faced an existential crisis or questioned whether you made the wrong life decisions. How did you manage these feelings? What advice would you offer to students who might be grappling with similar doubts and uncertainties in their own lives?

Of course I have. I don't think I've met a person who hasn't faced some sort of existential crisis in their life. I am not sure it's possible to give generic advice that covers all circumstances. The best I can offer as advice, is to make sure you have a strong support network of other people you trust in your life.

2. What is the worst thing one can do on a first date?

What a question. I thought about many answer strategies, but the most appropriate (and relevant) seems to be asking ChatGPT. So, inspired by a chat bot, I'll answer as follows. In the age of digital dating where we often meet our potential partners online, I'll go with telling your date that they look nothing like their profile picture.



**DON'T
BE STUPID**

3. What is the biggest false idea or misconception about what it means to be a professor?

I think the biggest misconception is that professors are omniscient. Most of ETH's assistant professors came here after a PhD and maybe an additional postdoc. I'd guess that's about 6 years of training on average. This is enough to learn a lot, but certainly not enough to have all the answers. The most important thing I have to teach students is not to assume I am always right—they should adopt a trust-but-verify strategy. Of course, the students are also taught that I will adopt a similar policy towards them. In practice, this means that every claim in our research papers needs to come with evidence to back it up.



Prof. Dr. Ryan Cotterell is a tenure-track assistant professor at ETH Zürich in the Department of Computer Science. He is a member of the Institute for machine learning where he heads the "RycoLab", working on a diverse range of topics in computational linguistics, natural language processing and machine learning. Born in Baltimore, which he claims is the greatest city in the world, he completed his undergraduate degree at Johns Hopkins University in Cognitive Science, specializing in Linguistics and Computational Methods. He continued his academic journey at the same institution, ultimately obtaining a Ph.D. in Computer Science. Besides being the star at ACL meetings, Ryan is passionate about funiculars and is often seen running around the 18th floor of the ETH AI Centre.

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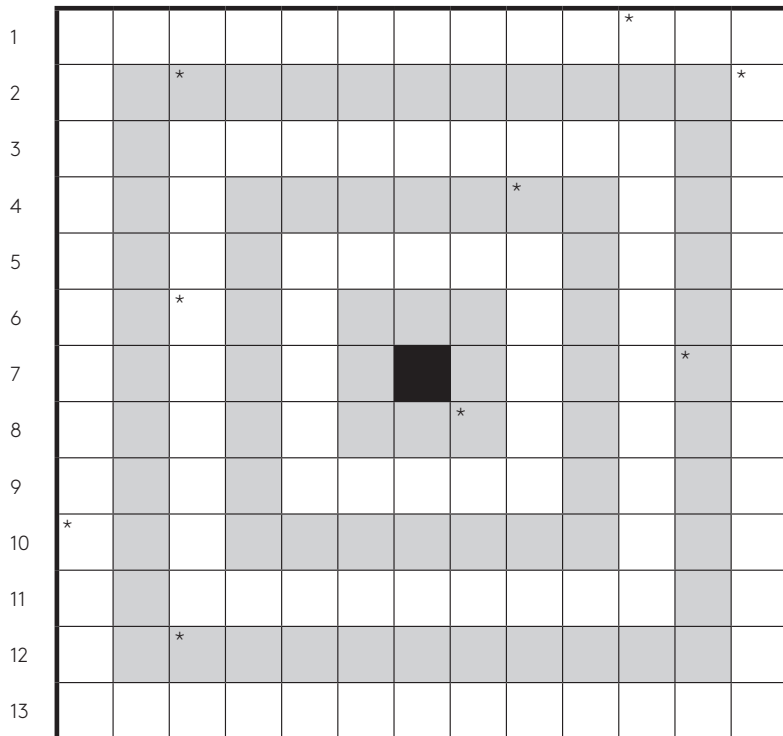
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Die Redaktion des Polykums bedankt sich herzlichst
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ansteckende Begeisterung und Kow-How wäre das
Polykum kein Polykum. Wir wünschen Conny viel Erfolg
mit ihren weiteren Plänen und Projekten.

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Es gilt: $i = j = y$

KRUXEREI

Ein neuer Fall von den drei Sonderzeichen

von &, ∞ und # (Rätsel, Bilder und Text)

Erklärung

Trage die unter «Zeilen» definierten Wörter waagrecht hintereinander in die entsprechenden Zeilen ein. Das Schema besteht zudem aus 6 konzentrischen Rahmen, welche im Uhrzeigersinn gelesen, ebenfalls Wörter beinhalten. Diese umlaufenden Wörter sind unter «Umlaufend» in korrekter Reihenfolge, aber ohne Angabe des Startpunktes, definiert.

Lösungswort:

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(Felder mit Stern waagrecht fortlaufend)

Zeilen (Waagrecht)

- In Bezug auf Haustür | sind Einbrecher dafür.
- Sprich's dreimal ins Mikrofon | fertig ist der Soundcheck schon!
- Damit kriegt jeder | ein Loch ins Leder.
- Werden, bei gutem Wetter | zu Blüten und Blätter.
- Es weiss nicht jeder: | daraus wird Leder!
- Geh hier rein | für Bier und Wein.
- Überschiebst du die Piste | ist es noch auf der To-repair-Liste.
- Spaghetti-Verwandte | in jedem Ristorante.
- Festtagsmahlzeit | mit Färbearbeit.
- Gut gedüngter Boden | Mann mit g'sunden Hoden.
- Hasel- ist das bloss | relativ zu Kokos-.
- US-Präsident | im David manchmal pennt.
- Weniger Plump | für Lump.
- Fast vom Bodensee her | fliesst sie ins Schwarze Meer.
- Trägt Flaschen zu | K2 und Manaslu.
- In der Kritik | wegen Grundwasser-Anzapf-Trick.
- So ist Pfirsich | der deine Zähne brich'.
- Verdient seine Brötchen | durchs intonieren von Nötchen.
- Armer und fauler Student | das Verb nicht kennt.
- Samt Haus mobil | mit Weidegründe-Ziel.
- Neutronenstern | blinkt gern.
- Geplante statt | gewachs'ne Stadt.
- Bei ihrem Anblick schmatzen | Greifen und Katzen.
- Solch Fuss | führt zu Buss'.
- Enchanté | für Alemanne.
- Augenringe-Killer | Im Salatteller.
- Seine lampi-Ohren erkennt | man auch am Firmament.
- Verpönt in Diätetik | weil es ermöglicht Aspik.

Umlaufend (Uhrzeigersinn)

1.Rahmen (aussen)

- Dies Zwiebelkraut | in Holland angebaut.
- Unsre Flagge kommt mir vor | wie der Operator.
- So bezeichnet Trish | was man bekommt bei Wish.
- Falsche Presse | in China Delikatesse.
- Legierung | für Armierung.
- Als Mensch gefühlt hundertvier | mal häufiger als das Tier.
- Gehobene Parliererei | für Brei.
- Lunge vom Schweine | ist zum Beispiel eine.
- Die Kinderäuglein glänzen schon | gibt's zu bauen die Polizeistation.

2.Rahmen

- Wird sein Geld los | Gegenleistungslos.
- Wo nuller im Derivat | und f-strich-strich ist positiv.
- Dieses bunte Öko-Licht | Gäß' es ohne Gallium nicht.
- Von der Kafeekann' | der Mann.
- Wenn Besucher missfällt | wird sie ihm ins G'sicht geknallt.
- Unterkunft in Not | wenn Gatte wieder droht.
- Ausruf hat man's verhaü' | Eine Beatles Frau.

3.Rahmen

- Grossreich-Verwalter | im Mittelater.
- Fertig schon | mit Präparation.
- Beatrice | und Bratfisch.
- So hiess doch, wart, | auch der Descartes.
- Der Trick alter Hasen | für Lasagne ohne Blasen.
- Verwandte endlos | so für Franzos'.

4.Rahmen

- Wer auf Rädern gerne eilt | und sich ab und zu auf'm Teer verteilt.
- Lust, Sachen | zu machen.
- Als Paradeplatz noch Florenz war | dieser Medici der Star.
- Für Weinbau, wo steil | wo Wein genippt mit Style.

5.Rahmen

- Eines pro Geschicht' | nur bei Wurst nicht.
- Ziemlich helle | Photonenquelle.
- Am G'schäft solch Signet: | Touristen-Magnet.

6.Rahmen (innen)

- Haltung verlieren | zum Schwerpunktoptimieren.

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Letztes Lösungswort: **KUNSTPALMEN**

