
PING!
MAY 2021

Ping! is an independent magazine of the students of IIIT Hyderabad. The views presented are not representative of the institute, and the institute is not the publisher of the magazine.

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EDITORIAL

Welcome to the May 2021 issue of *PING!*, the third one to come out during the COVID-19 pandemic. The first pandemic release was during a much simpler time - when home quarantine could naively be confused for an impromptu holiday. The period around the second issue saw students coming to grips with the isolation of homestay, the monotony of the every day, and our psyche during the lockdown. The cover of that August issue echoed that sentiment partially - a sense of being trapped in one's head, forced to reflect and reevaluate parts of social life otherwise taken for granted. This magazine echoes a different sentiment - one that's more outward-looking - captured in the cover design by Pratyay Suvarnapathaki, a fight for normalcy obstructed by a relentless pandemic.

The call to return to campus has reached a fever pitch recently as more than a year has passed since IIIT suspended in-class teaching. More agitating than quarantine, however, is the lack of a clear end to this pandemic. As of publication, India witnesses the largest peak of COVID-19 cases yet, leaving any plans for a campus reopening in limbo. Seeing no end in sight, IIIT had made attempts to ease back into regular functioning, but COVID scares routinely dampened enthusiasm. The unfortunate loss of a few IIIT staff has exacerbated the already tense situation, forcing IIIT to reevaluate its bubble in a crisis-ridden city. Hence, last year's themes, that of a lacking social life, would be a gross mischaracterisation of these times.

This magazine, however, is not about the pandemic but a mere product of pandemic productivity. The only hint of COVID-19 is in the piece 'What if online was the new norm?' and the delayed release of this issue. For the most part, it reflects regular student life: pieces on CND and Math electives at IIIT discuss the

origins of a popular programme and the problems plaguing IIIT's math curriculum. 'Parliament Perception' addresses common complaints about parliament and its fractured reputation. On the other end, pieces such as 'Hotel California' and 'Top Gear' discuss famous pop culture moments. And, there's more! We couldn't fit everything into the magazine, so here's a quick rundown of some notable events/issues these past few months.

ACADEMIC WORKLOAD

A major point of contention over the Spring Semester was the sudden increase in workload. The freshmen found the jump from high-school education to undergraduate studies harder than normal because of the difficulty in online instruction. The sophomores were burdened by poor academic scheduling as they saw most of their electives pushed to the second half of the semester. Overall, most students across batches reported high-stress levels due to multiple consecutive deadlines, despite reporting similar concerns in the 2020 Monsoon semester. However, unlike the Monsoon semester, there was no option to mask one's grade with the 'P*' grade. Subsequently, the past few months have seen a long campaign to restore 'P*' with no success. To the institute's credit, the academic office has been handling genuine appeals (due to COVId-19 infections or other related problems) on a case by case basis. Still, it sets up an interesting situation for the coming semester, which will likely be online as well. In the absence of fool-proof examinations, a greater number of assignments and projects have flooded calendars, leaving little time for recreation; the last two months of Spring barely saw any activity from any cultural clubs, a dry spell typically reserved for examination weeks.

FELICITY

February saw the re-emergence of Felicity, albeit in an entirely online format. The event this year, in a way, represented how we exist in this quasi-normal state. All the regular events - Inaugurals, a comic act, music performances, etc., were present, but everything was watered down. There was no cheering as your batchmates stepped up to dance , sang their hearts out or cribbed about how the comic was very unfunny and pompous. Instead, you had live comments on an online interface, which reduced their impact and made them devoid of emotion and inhumane. Now, this is not to say that Felicity was a failure, or even to say that it was not a success. The event was exceptionally well organised and quite fun. The performances were beautiful, and the use of Live Releases on Youtube ensured a clean, enjoyable time with no technical glitches.

The reduced costs because of shifting everything online meant that there were more 'star performers' than usual. A large chunk of the budget was available to get multiple comedians and internet personalities. This shift in focus from the form of the event (stage, lights) to the function was a positive change and made for an enjoyable felicity, even without the typical 'grandeur'.

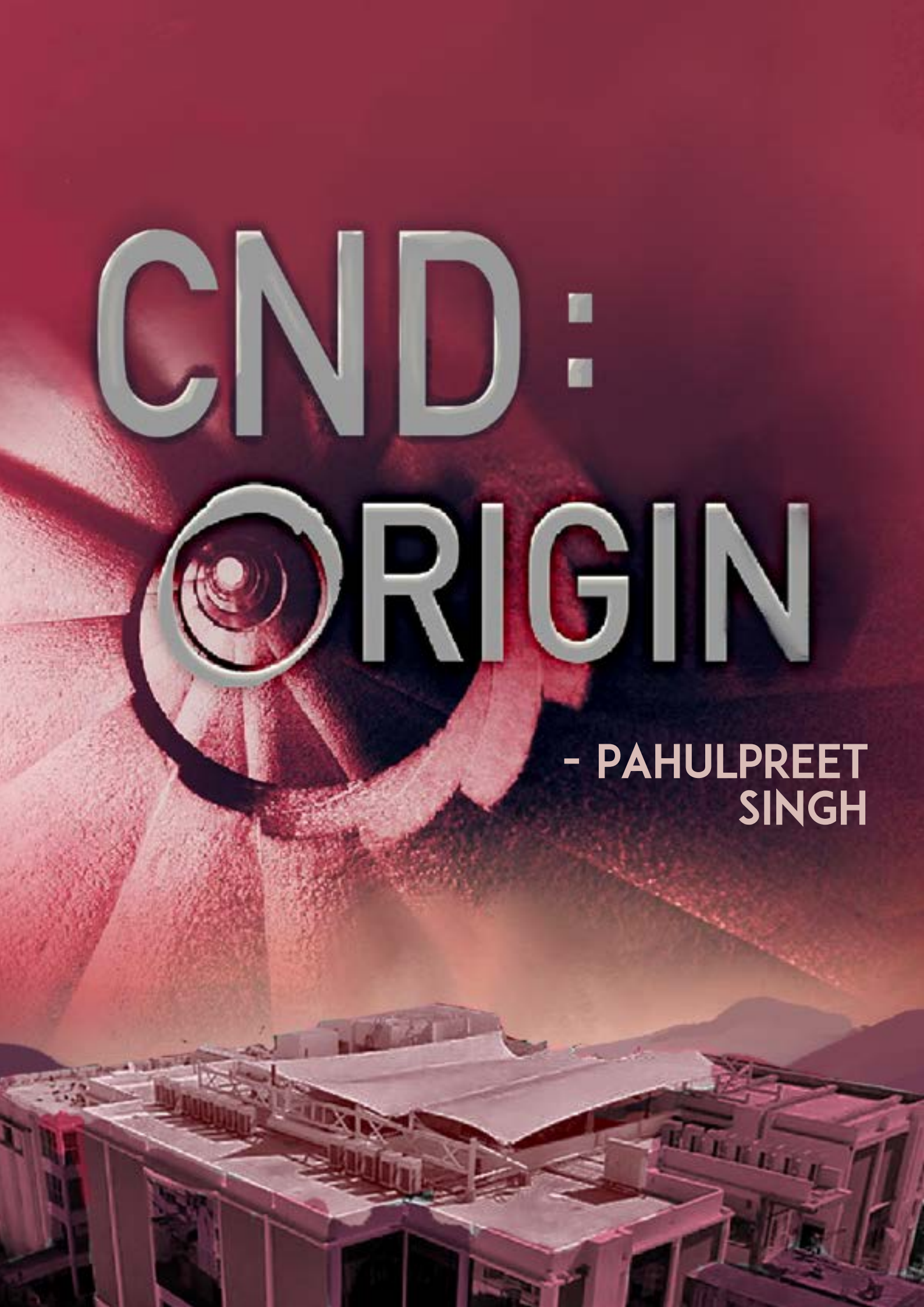
CAMPUS LIFE ONLINE

The UG2K20 batch had a very tumultuous start to their college life. Commonly referred to as the Quaranteens, the freshmen had a rough start to their undergraduate studies. The batch was broken into two parts because of varying examination dates, and it took around two semesters (out of three) for them to complete the same courses. Now, IIIT has a very unique social dynamic. There are multiple tiny groups that are formed because of mutual love (or hate) for particular things. You are more likely to remain friends with the people you meet on the first day of induction and are less likely to make lasting friendships as the years go by. This effect has been exacerbated because of the online setting. The division between "Section A" and "Section B" is apparent, and common talking points, like "bitching" about courses, are very restricted.

Another unfortunate by-product of the continuous lockdown has led to the second batch of seniors graduating online. Life online has been strange indeed. Around this time last year, India struggled with fixing a date for the JEE examinations, and this year is no different. It's nearly guaranteed that the next set of freshers will join online as well, making for an even more interesting student dynamic. If there was such a thing as 'IIIT culture', it's likely harder to return to that same sense of normalcy even a year later. The idea that more than half of the IIIT campus is unaware of its buildings, hidden rooms, and friendly/devilish dogs is something that won't get easier to digest any time soon. However, the 'Sir/Ma'am' culture still lives, so at least some things never die... ■

CND: ORIGIN

- PAHULPREET SINGH



Timeline

2001: MSIT (Bio-informatics) is started in collaboration with CMU

2002: BiRC is set up

2004: M Tech (Bio-informatics) program is started

2005: 4-year post-B. Sc. MS by Research program

2007: BiRC converted to CCNSB

2008: Proposal for IT + CNS Dual Degree program

2009: CND is born

Introduction

It has been over ten years since the emergence of the Computational Natural Sciences Dual Degree program, commonly referred to as the CND program. This program's nature is not known to many, especially outside of IIIT-H, due to this program's distinctiveness, with few counterparts in other Indian colleges. The unique nature of this program raises the question of its genesis.

To get the answers to our questions, we interviewed some of the professors who played a pivotal role in setting up this program - Prof Abhijit Mitra, Prof Harjinder Singh, Prof Prabhakar Bhimalapuram and Prof Deva Priyakumar. This article covers the history of bioinformatics and natural sciences at IIIT-H, as well as other interesting events that capture the institute's evolution.

Conception of CND

Despite being an IT institute, IIIT-H understood that a university is not just an expanded computer science department. Hence the institute offers transdisciplinary programs, connecting different domains with computer science. CLD (Computational Linguistics Dual Degree) was the first such program offered by IIIT-H at the undergraduate level, followed soon by CND.

But CND wasn't the first program in IIIT-H which integrated computers with pure sciences. There were several attempts to attend to the needs of people who are good at both natural sciences and computer science. Even though it might sound surprising to some, the origin of this program is actually tied closely to bioinformatics.

IIIT-H and Bioinformatics (before 2006)

Bioinformatics became the new "trend" in the late 1990s - early 2000s period. The focus was slowly being shifted from information technology to biotechnology in many parts of the world, just around the period when the institute was founded. The emergence of bioinformatics in IIIT-H is marked by the MSIT program (Master of Science in Information Technology), which was a multi-university program started in 2001 in collaboration with various institutes in Andhra Pradesh/ Telangana (JNTU Hyderabad, JNTU Kakinada, JNTU Anantapur, SVU Tirupati) under Carnegie Mellon University (CMU). This program covers a large number of fields including Machine Learning, Data Science, Software Engineering, etc. but the Bioinformatics branch was set up in IIIT-H.

In our conversation with Prof. Mitra, he tells us that back then Bioinformatics dealt with a large amount of data and pattern recognition gathered from experimentation. In most cases, the database is so huge that it requires extensive expertise on databases besides different analysis algorithms, neural networks and other models. It doesn't consider the underlying chemistry or mechanisms of the processes; it is just about finding correlations from the patterns. On the contrary, Computational Natural Sciences utilises calculations and concepts in chemistry and physics to run simulations and derive results.

This was initiated by Prof Raj Reddy. (As of now, Dr Kishore Prahllad is overseeing this program on behalf of IIIT Hyderabad.) MSIT is a program for BCA (Bachelor of Computer Applications) and MCA (Master of Computer Applications) students. It started out as a diploma but was later converted to a collaborative (IIIT-H + CMU) degree.

Around the same period, the Bioinformatics Research Centre (BiRC) was set up at IIIT-H. Dr Nita Parekh, who earlier used to give guest lectures for MSIT, joined IIIT-H as a faculty. Along with Dr Abhijit Mitra, she consolidated the MSIT program and the bioinformatics research centre. In fact, the credit

for most of the ventures related to bioinformatics goes to these two.

The next program that was started was MTech (Bioinformatics) in 2004. It was accompanied by a proposal for BTech (Biological Sciences) in collaboration with NCBS Bangalore, but unfortunately, that did not work out.

MTech (Bioinformatics) program continued till last year but got discontinued with effect from 2020 batch. It is a possibility that this program might resume at some point in the future, or be replaced with a similar program.

This was followed by a 4-year MS by Research program, which was proposed for post-BSc students. It was implemented around 2006 and had a total of 3 batches of students before getting discontinued at the start of the CND program.

Transition to CNS (2006-09)

Dr Harjinder Singh joined IIIT-H in 2006 and was the leading light in preparing the vision for Computational Natural Sciences. It was realised that even though bioinformatics is a vast area, it has limited possibilities in combination with computer sciences; and that Computational Natural Sciences would be a better domain integration. Envisioned to be more than just bioinformatics, BiRC was converted to CCNSB (Centre for Computational Natural Sciences and Bioinformatics) in 2007. Dr Harjinder formally took over as the centre head, in 2010.

Dr Prabhakar Bhimalapuram, who would soon play an instrumental role in setting up the CND program, joined the institute in 2008. Dr Deva Priyakumar joined around the same time and would be the key person for generating funds for enhancing the computational facilities at CCNSB.

Discussions about an IT + CNS Dual Degree began soon after this among Dr Mitra, Dr Harjinder, Dr Prabhakar and Dr Deva, and the curriculum was designed. The idea behind having these courses right from the undergraduate level was that high school graduates are students who can easily be trained in both domains and weren't afraid of either. There was a great push towards computer science in the nation, but many students remained interested in science. The CND program offered a way for students to do both at the same time.

After multiple rounds of discussion about the course pattern, the CND program was created in 2009.

To balance the domains of IT and CNS, a few of the computer science courses were removed, and B Tech CSE turned to B Tech CS, as science courses and computational courses were added. After the first few semesters of building the foundation, students can decide which sub-areas to work on by choosing their electives and can gain expertise in the fields in which they will eventually work for their thesis.

A lot of professors joined during this time, including Dr Tapan Sau, Dr Subhadip Mitra, Dr Marimuthu Krishnan and Dr Vinod PK, among others. This addition provided an even larger variety of subjects taught in the institute. Dr Tapan Sau, who was the only experimentalist to join the institute around the time the CND program was conceived, had noteworthy contributions in developing the physical labs at IIIT-H.

Dr Abhijit Mitra and Dr Harjinder Singh were acquaintances from their time at IIT Kanpur. They had met after nearly 25 years by chance at the guest house in IISc, Bangalore where they had gone for a conference. The two had an ardent discussion about the new possibilities emerging at IIIT-H at that time. Soon after this discussion, Dr Harjinder Singh, who was earlier a professor at Panjab University, Chandigarh, joined IIIT-H upon the request of former director Dr Rajiv Sangal.

A major concern initially was running a science program without a science lab. The institute had applied for a grant to the Department of Science and Technology (DST), Government of India, under the scheme "Fund for Improvement of Science & Technology Infrastructure (FIST)". DST accepted the proposal drafted by Dr

Mitra, Dr Harjinder, Dr Prabhakar, and Dr Deva, and a grant of ₹77 Lakh was awarded in the year 2009. But since IIIT-H is a private institute, the institute was asked to self-fund 50% of it. This had lead to a lot of debate, and by the time these funds were organised, the grant offer was revoked. In the end, it was an AICTE virtual lab project years later that brought in the funding for the project. This project, which is still ongoing, set up virtual labs for all of IIIT's research centres, where students can run simple experiments and understand related concepts.

CCNSB is closely linked to the CND program, not only because it is the lab where a vast majority of CND students work for their thesis, but also due to the self-evident fact that the origin of CND is tied to the origin of CCNSB. Hence this article about the CND program would be incomplete without talking more about CCNSB.

The planning for the science lab was already in progress long before 2009. Prof R. Jagannathan, a retired faculty from the University of Hyderabad, had joined IIIT-H temporarily solely for the purpose of planning out and setting up the science lab. The initial funds for this came from Prof Harjinder's virtual lab projects. Prof Jagannathan left the institute almost a year later, soon after Prof Tapan had joined.

More about CCNSB

Applying state of the art computational techniques to fundamental problems in physics, chemistry and biology has always been the general thought behind the research done by CND students. Today, the scope of research at CCNSB has spread to a wide variety of fields, including but not limited to high-energy physics, quantum information and computing, statistical mechanics, systems biology, computer-aided drug design, genomics, protein networks, and so on. In the last three years, the centre has moved into applying modern machine learning methods in areas of drug design, quantum-mechanical problems, and healthcare initiatives.

These problems require powerful **co**mputational facilities as well, which arrived alongside the CND program and CCNSB.

CCNSB and HPC at IIIT

Dr Deva spearheaded the arrangement of the central facility for computation. His first visit to the campus wasn't until he had already joined as a faculty member, so he didn't know about what facilities were present here. His work prior to joining IIIT-H depended a lot on high-performance computing (HPC) but when he joined, he realised that even the main server was running on a desktop PC and that there weren't any servers capable of high-performance computing.

With the grants that he and Dr Harjinder managed to get, an 11-node CPU cluster was arranged and named "Adhi" because it was the first set of HPC servers. Gradually, more computers were added and eventually, Adhi became a 60-nodes cluster.

Dr Deva then talked to Dr PJ Narayanan, who was the Dean (Research) at that time, about getting more computational facilities. In the early 2010s, the institute invested in the next set of machines. "Abacus" came into being as a central facility. Since then, a new cluster, named "Ada" after Ada Lovelace, has emerged with over 40 nodes. The nucleation of any big thing has to start from somewhere, and in the case of high-performance computing in IIIT-H, it all started from CCNSB.

Present and Future

It's interesting to see how computational natural

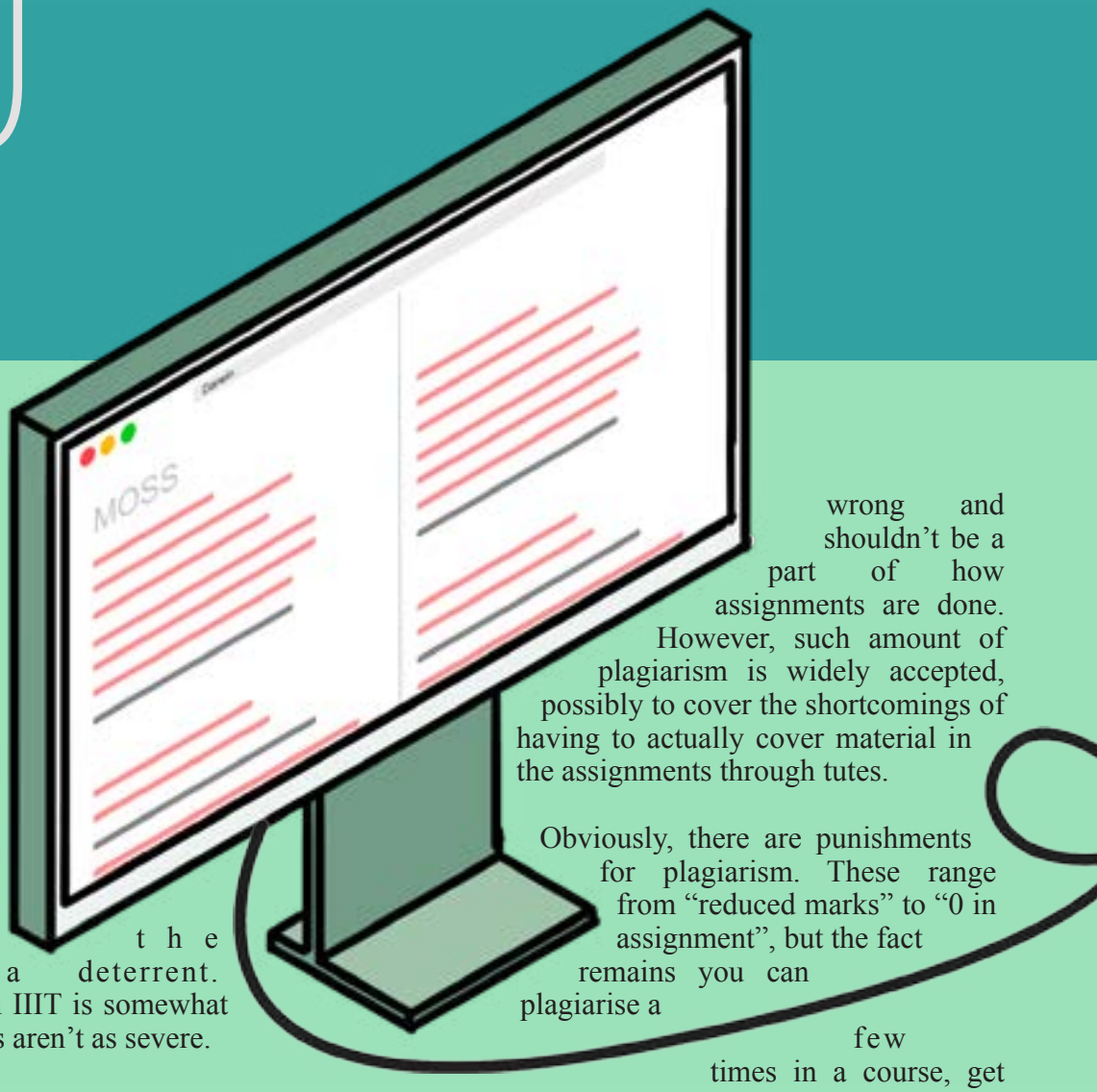
sciences at IIIT closely aligned itself with various milestones at IIIT. Today, the CND program has over 70 students, with an increasingly competitive student pool. As the years have gone by, a project that started out with humble beginnings has begun to have a bigger societal impact as well.

For instance, recently, CND students, along with other researchers of CCNSB, have been working on COVID-19 related research. It has come a long way over the past year, and it is interesting to see how it will continue to grow. Some of the recent projects involve the collaboration with Intel, Max Hospitals and a few other organisations to investigate Indian resistance to COVID-19. They also worked on algorithms to determine whether the patient is at high risk or low risk early on. This was just one of the many ways the lab has contributed to this cause.

All the advancements in these fields have been possible due to the unique amalgamation of sciences with computer science. It would be interesting to see where this program goes in the next few years as this field continues to develop. ■

Plagiariser's Dilemma: Why Should YOU Care?

- Mayank Goel



Eighteenth Century England had a legal system that was stretched thin and could barely keep up with the list of offences it had. A way to deal with this problem was the arbitrary threat of being punished, that is, a person convicted, even for an offence such as pickpocketing, was executed. The idea was that the randomness and the severe penalty would act as a deterrent. Dealing with Plagiarism in IIIT is somewhat similar, except the penalties aren't as severe.

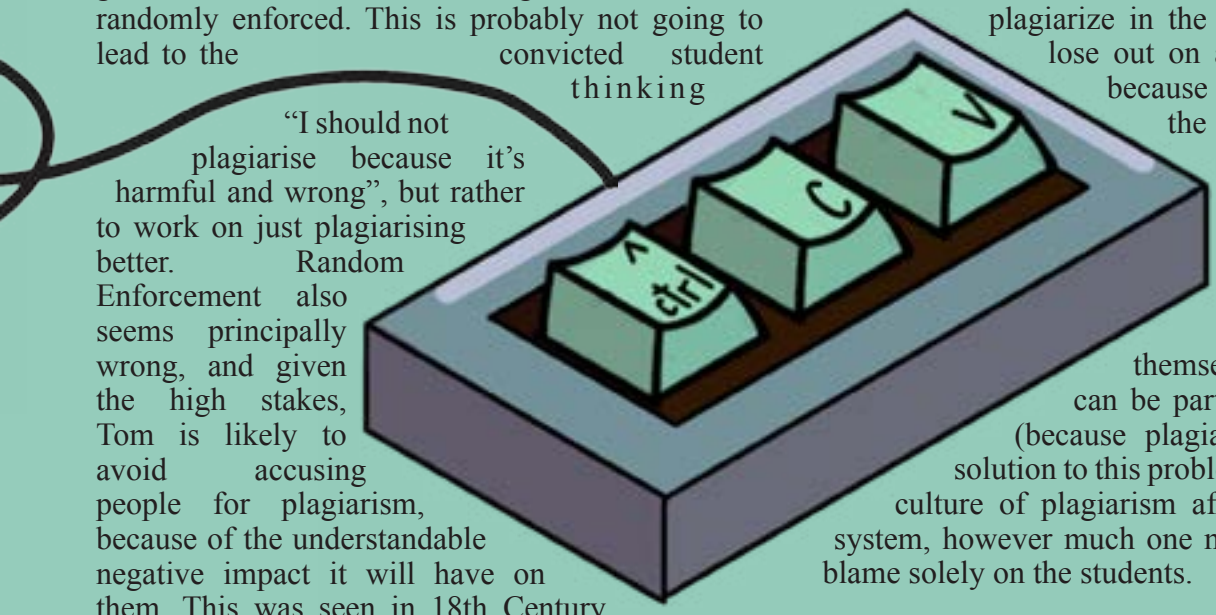
To begin with, the honest truth is that nobody deals with Plagiarism. "Demossing" is part of the college's culture, paraphrasing is considered second nature. The fact is that without a concrete policy, people cross reasonable boundaries of Academic Honor even without plagiarising. For example, verifying answers isn't plagiarism, however it is wrong and shouldn't be a part of how assignments are done. However, such amount of plagiarism is widely accepted, possibly to cover the shortcomings of having to actually cover material in the assignments through tutes.

Obviously, there are punishments for plagiarism. These range from "reduced marks" to "0 in assignment", but the fact remains you can plagiarise a few times in a course, get caught and still get a decent grade, considering the chances of actually getting caught is a fair bit less than 100%. Since the consequences are less, this also means anything that TAs half-suspect is plagiarism can be marked as such, often without even informing the student. Obviously, the perks of not getting caught can range all the way to a dassi.

Consider:

"We've noticed various degrees of plagiarism across many submissions. These cases have been penalized accordingly.", taken directly from a post by a TA. Note how the punishment for plagiarism is "penalized accordingly". To start off with, this just shows how opaque the system is, where a student isn't even told that they're plagiarized. The idea thus is not to remove plagiarism because of the effects it has on the academic culture, but because it's morally wrong, the same way doing drugs is morally wrong. The point that is never confronted is why students plagiarize, because it is accepted as a fact of life that students plagiarise. The Sun shines from the east, Manchester United won't win the Premier League, and - students plagiarize. The task to curb plagiarism is therefore an inherently antagonistic role, TAs versus students, and the Tom and Jerry here must outsmart each to win. Obviously, Jerry always wins, but Tom has to try, because that's what he's there for.

"If we beheaded every ranger who lay with a girl, the Wall would be manned by headless men.", is a quote from Maester Aemon from the Game of Thrones, about the Night Watch of the Wall who were sworn to an unmarried life. This will also be true for any course in the college, and if strict consequences and strict evaluations existed, there wouldn't be students to pass the course. Thus, there is an implicit agreement, you agree to try to not plagiarise, and the course agrees to not punish you too much. It's fairly easy to fail a student or to expel him, however just doing that will simply cause more problems. To start with, it will increase the Tom and Jerry antagonism, which will be even more counterproductive to the current system. Moreover, given the current state of things, this would be randomly enforced. This is probably not going to lead to the convicted student thinking "I should not plagiarise because it's harmful and wrong", but rather to work on just plagiarising better. Random Enforcement also seems principally wrong, and given the high stakes, Tom is likely to avoid accusing people for plagiarism, because of the understandable negative impact it will have on them. This was seen in 18th Century England, where people would bend over backwards to look for loopholes to acquit people of crimes, because conviction usually just led to a death penalty.



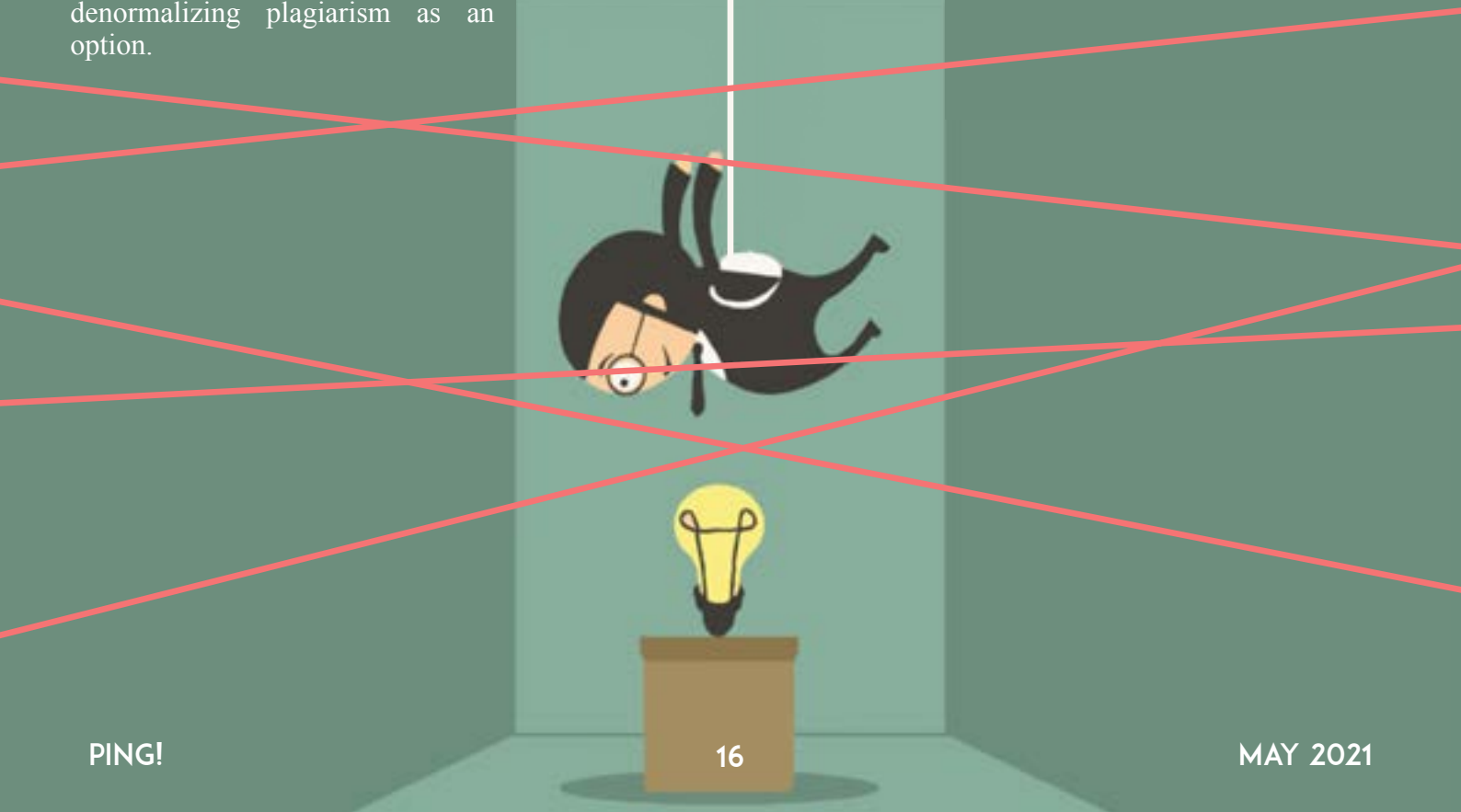
The harms of plagiarism are far different than what might be obvious at the surface level. The real harm isn't when someone plagiarizes and they "lose out on learning". While that is a harm in itself, one could argue there isn't a lot worth learning and/or plagiarism is a necessary sin to balance the high workload in the college. The harm is that both the above points are absolutely true points that are fair justifications to plagiarize, at a personal utilitarian level. The societal impact is also mitigated, through the case of a prisoner's dilemma. The Prisoner's Dilemma is a situation where any player (here, a student) in a game (here, the game involves two choices: plagiarize or not to plagiarize) will strictly decrease their payoff if they are the only party to deviate. That is, if a student doesn't plagiarize in the current system, they lose out on a higher grade. And, because students plagiarize, the current system can afford to not be primarily about learning (because not a lot of people did the assignment themselves anyway), and can be part of a high workload (because plagiarism is the organic solution to this problem). The harms of the culture of plagiarism affect everyone in the system, however much one might want to put the blame solely on the students.

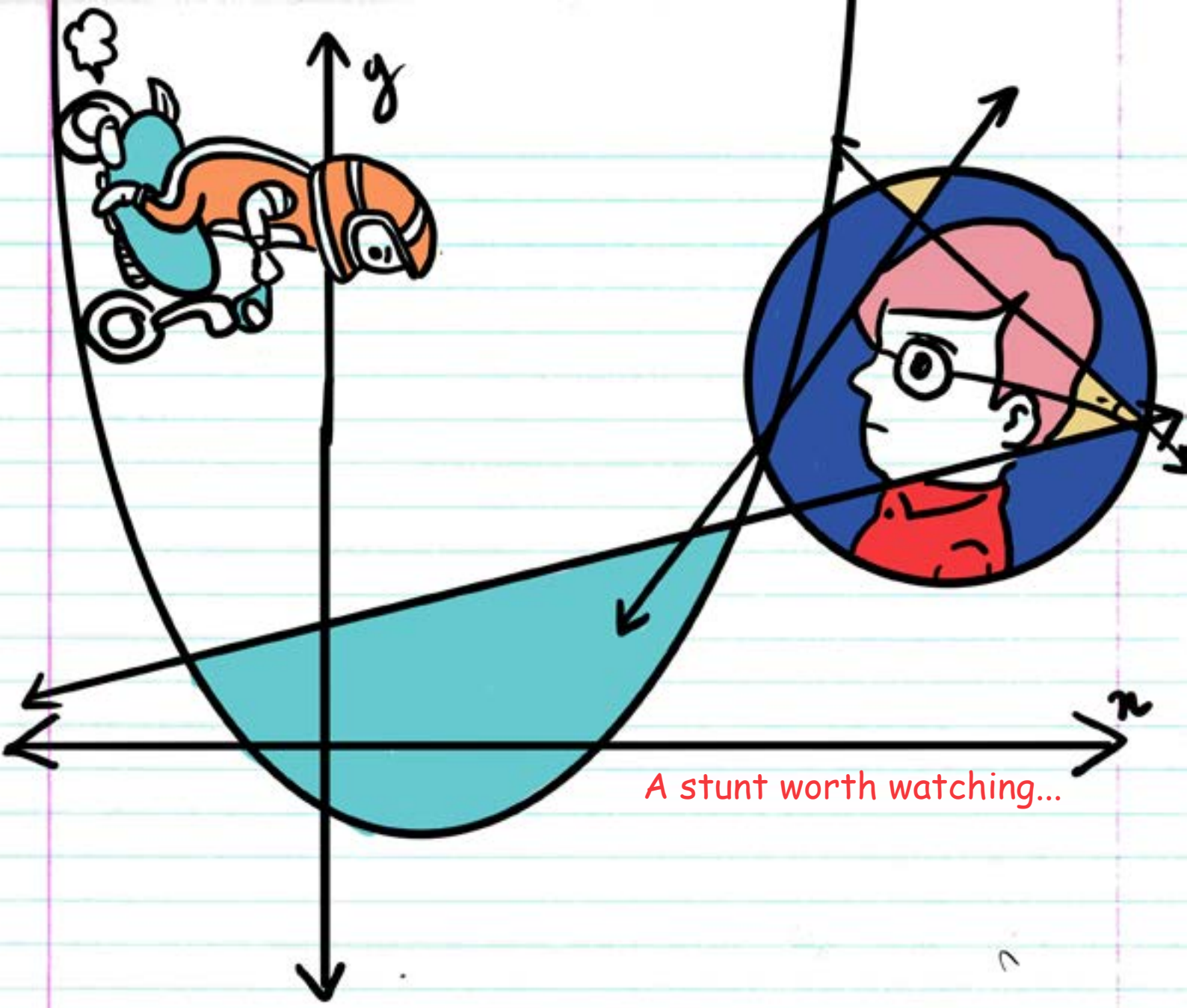
While Plagiarism helps reduce the workload, it still takes up a chunk of time to escape MOSS/write assignments. This chunk is entirely futile work, and most importantly it feels akin to manual labor. At the end of it all, the time spent on plagiarism leads to no benefits, and adds on to the cycle of high workload and substandard understanding of the material.

Do solutions exist? To start with, the burden of proof for plagiarism should rest on the evaluator, and should be fairly strict. This will reduce the false positives in the system, and in turn, allow for harder consequences for those who actually have plagiarised. Another would be more regular, and possibly more relevant tutorials and assignments, and building a course structure that creates a reasonable amount of workload. The core idea should be that a student gets the grade they deserve, not the one they either get unfairly, or a lower one because others got a higher grade unfairly. Creating an Honor Code can help de-normalize plagiarism as an option in the college, and give a clearer idea to what it entails. A Workshop during the Induction Week for freshers, or even for senior students can help build upon denormalizing plagiarism as an option.

However, "relevant tutorials and assignments" is easier said than done. TAs have their own workload and obligations, and in a lot of cases, an undergraduate TA may simply not know enough (it goes without saying that many TAs likely plagiarized in their own courses). This has led to an interesting Catch-22, for most doubts and difficulties, students are referred to the Professor by the TAs, and vice versa. Obviously, there is no denying the fact that a lot of TAs/Professors go the extra length and help the students, but the widespread culture of plagiarism means that there barely are kids to actually take the help. This again leads to another cycle where TAs are disinterested and much more concerned with their job (evaluation) than trying to make sure that the students learn from the course. The only way to break this cycle is by establishing learning as the focus of a course, and not the grades received at the end of it.

21st Century England has a much more robust legal system, and the punishments are based on the principle of rehabilitation. 21st Century IIIT Hyderabad, however, is a few centuries behind. ■



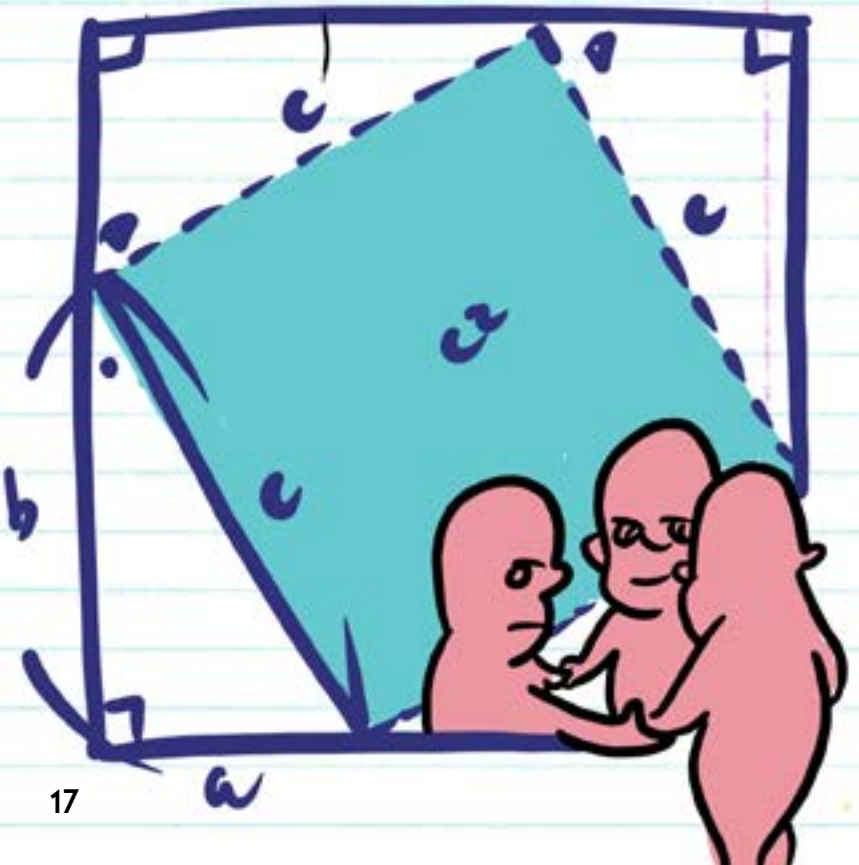


A stunt worth watching...

Maths @IIIT-H

Written by Abhinav Menon, Bharathi Ramana Joshi

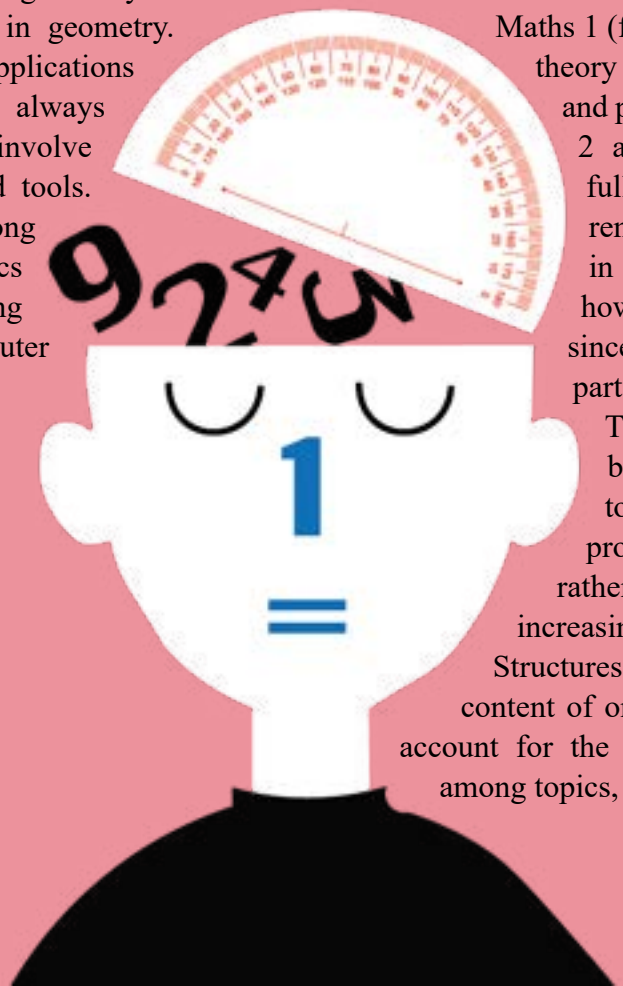
Maths is widely acknowledged to be of central importance in research in any field, but at first glance, the expected variety in maths courses is conspicuous by its absence in IIIT. This article takes a deeper look at the situation, first comparing the maths requirements at IIIT with those at other colleges and universities, and then detailing the various opportunities the IIIT student has for pursuing maths (academically or otherwise). We then discuss what can be done to improve the situation (to the extent that improvement is needed).



MOTIVATION

Computer science and mathematics have historically been intricately intertwined. It is in fact arguable that the entire field of computer science rose out of solving the Entscheidungsproblem, a problem posed by the mathematician David Hilbert asking for an algorithm that says yes or no for any given statement, in accordance with the statement's validity (which we now know does not exist – see Undecidable problem). It was trying to solve this problem that led to the discovery (the author subscribes to the romantic notion of mathematical realism) of the pioneering Turing machine.

This is not to say that mathematical association in computer science is mere historical curiosity – most modern sub-fields of computer science rely heavily on mathematics. To name a few, programming language theory turns to logic and algebra to assign meanings to language constructs, theoretical computer science, computability theory and complexity theory can argued to be sub-fields of mathematics itself, probability and statistics are the bread and butter of information and coding theory, cryptography makes liberal use of number theory to build techniques for secure communication, linear algebra and calculus are widely used in machine learning and computer graphics and computational geometry take for granted numerous results in geometry. While the fields and applications therein are themselves always changing, they invariably involve mathematical thinking and tools. As a consequence, a strong grounding in mathematics is necessary for aspiring researchers in computer science.



MATHS COURSE REQUIREMENTS IN IIIT

The undergraduate CS course at IIIT needs 16 maths credits (4 each from Discrete Structures, Real Analysis, Linear Algebra, and Probability & Statistics) out of 161 total. This means that maths accounts for 9.93% of the credits.

Since the total number of courses is around 49, this is equivalent to 8.1% of the courses.

These numbers are close to the average for most engineering colleges; however, whether they are "enough" depends heavily on what comes after graduation. For a career in software engineering, they are little higher than necessary, but for research in applied computer science, they have been described as "just right" by alumni and students. In theoretical computer science, however, they are not nearly enough, which we explore later. Overall, considering all possibilities, the requirements appear to strike the right balance (on paper). It has, however, been suggested by an alumnus that more electives in 3rd or 4th year would be a good option to have.

The course restructuring that took place two years ago brought some fundamental changes in the maths courses as well. Abstract algebra, which previously had its own half course as part of Maths 2, was subsumed under Discrete Structures along with Maths 1 (fundamentals of set theory, graph theory and recurrences). Linear algebra and probability (half courses in Maths 2 and 3 respectively) were made full courses. Complex analysis was removed and real analysis added in its place; this course's name, however, is arguably a misnomer since it covers complex analysis as part of its syllabus as well.

These changes were on the whole beneficial, since the complex topics of linear algebra and probability are given full courses rather than half courses. However, increasing the course content of Discrete Structures to what was previously the content of one full and one half course may account for the unsatisfactory time distribution among topics, mentioned earlier.

TOP CS SCHOOLS WORLDWIDE

	MIT	Stanford	CMU	Princeton	Cornell	Harvard
Credits	6.25%	14.4%	8%	-	-	-
Courses	8.6%	17.4%	~14%	11.1%	15%	~20%

It is well to note, however, that these are only the **minimum** requirements and are not fully representative (the denominator is the total number of courses, inclusive of electives).

The 6-8[1](depending on how a "maths course" is defined) maths courses offered by IIIT contrast with the 20+[1] courses offered by IIIT Delhi's maths department, 30+[1] by IIT Bombay's, 70+[1] by IIT Delhi's and 100+[1] by IIT Kanpur's, but are comparable with the 9 by IIT Madras's (seven of which are electives). The classification of a course as a "maths" course is rather elastic, and may or may not include applied maths courses; moreover, the institutes mentioned have dedicated undergraduate maths and science programmes and are therefore more likely to offer more maths courses to CS majors as well. As far as the foreign universities are concerned, their curriculum is in general more flexible, allowing students to take a greater number of maths electives in their 1st and 2nd years.

1 *Quoted figures taken from the respective websites.*

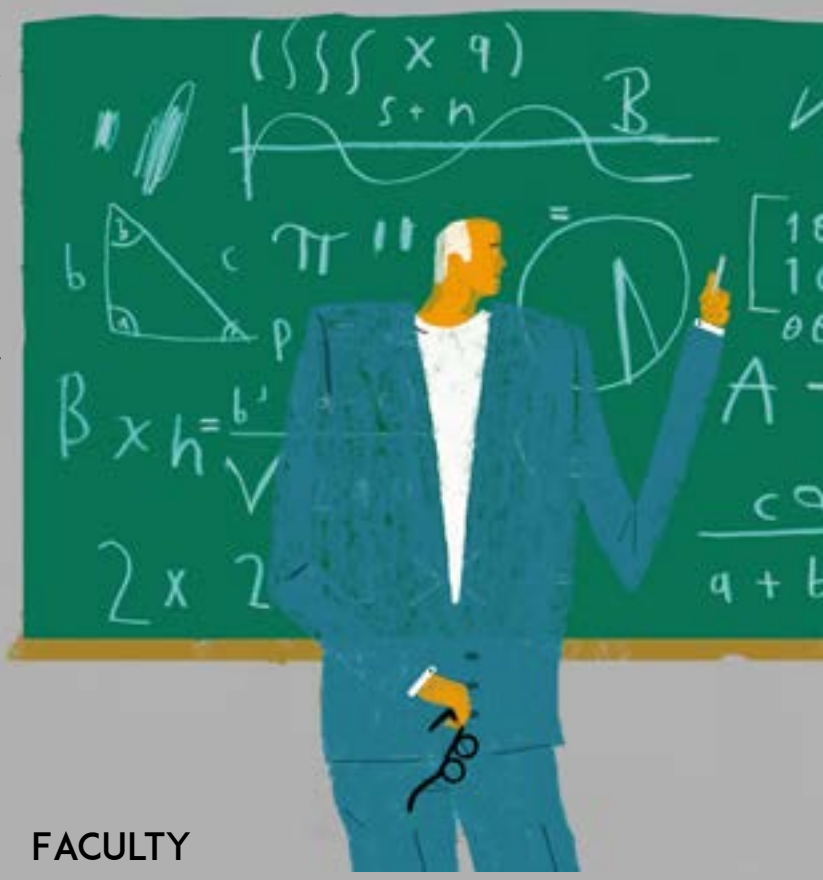
COURSEWORK AND ITS APPLICATIONS

Among the four compulsory courses at IIIT, Discrete Structures (especially propositional logic and graph theory), Linear Algebra and Probability & Statistics are widely applied in CS; however, since Real Analysis stops short of calculus, it is not quite equal to the rest. Being, in essence, a pure maths course, it is perhaps unfair to expect wide-ranging applications from it. This, of course, raises the question of why pure maths courses are necessary in the curriculum – one justification is the development of general intuition and familiarity with problem-solving that invariably comes with a study of maths.

Courses on multivariate and/or vector calculus, on the other hand, are conspicuous by their absence, especially since these topics are extensively made use of in courses like Statistical Methods in AI, science courses, and optimisation based courses like Topics in Applied Optimisation. It might, therefore, be beneficial if Real Analysis were to be replaced by one of the above courses.

Of course, all these points are only in the abstract. Much – one might argue, more – depends on the faculty and organisation of the course.

MATHS FACULTY & INSTRUCTION



FACULTY

The term is used to refer to the collection of IIIT's maths-related faculty (mostly associated with CSTAR and MLL). The lack thereof (the exact number is hard to pin down because of the vagueness of the term itself, but under 10 is a fair estimate) is arguably significant, but its ill effects are slightly mitigated by the fact that the relatively basic nature of the compulsory maths courses means it is easier for CS professors to teach them. **Note that this is dynamic over time, often with a few faculty that take an initiative making a significant difference.** Dr Saswata Shannigrahi,

who is no longer at the institute, was mentioned by alumni as having played a critical role in the development of their maths skills.

The main problem with the small number of faculty is that the elective count is affected, and options for completing the credit requirement are hard to come by. Open courseware and NPTEL appear to be viable alternatives (and have been used in this capacity before), although this is a superficial assessment and the feasibility of this course needs to be looked into. It must also be borne in mind that this is only a temporary fix and adopting it permanently is probably not an optimal solution.

INSTRUCTION

Even among courses that have been included, the organisation of topics is poor – there are some courses within which the distribution of teaching time among topics could do with a revision. The Discrete Structures course, for instance, gives (what might be called undue) focus to predicate logic and set theory (which are comparatively easy and learnt by most before college), leaving very little time for the more abstract and less familiar group theory and graph theory. This means that even if the courses are meant to cover concepts that are important later, these concepts may end up being taught inadequately or not at all in practice.

All things considered, the possibility must be taken into account that students who wish to take up research involving maths during college or after graduating might be handicapped by the inadequate focus given to it in the academic setting. If nothing else, a higher percentage of maths courses would enable more people to do better at research as well. A weak mathematical foundation can discourage a person from research or demotivate them.

THE THEORY GROUP

The student-run Theory Group is a forum for discussions and study (in maths as well as other subjects) as well as a source of information and knowledge, and many interested students have benefited from it. While it is not intended as a classroom substitute, as a community it has encouraged mathematical pursuits to some extent in relevant and useful topics and been rewarding to its members.

The (valid) point can be made, however, that the very existence of such a student-run community highlights the lacunae in the academic setup for maths. Further, since it is open to all, students who have less expertise or who are new to some topics are thrown together with students or alumni conducting advanced discussions, which is perceived as intimidating and limits the participation of the former.

INDEPENDENT STUDY

Independent study might make up for this, although the options for the same in maths are limited. Since the number of independent studies is limited to two, relaxing this restriction seems like a good recommendation, especially for subjects like maths with relatively sparse course offerings.

BENEFITS OF MATHS AS A CS STUDENT

ACADEMIC

Apart from the obvious real-world applications of maths topics in CS and related fields, the study of maths can have several indirect benefits for the CS student. The techniques developed in problem-solving (even in pure maths) have the potential to be applied in any field. Furthermore, it has been reported to be of use (as a kind of selling point) in obtaining research opportunities, the experience of which is always valuable.

OTHER

The preponderance of maths-heavy questions in many competitive coding competitions means that

a familiarity with maths is almost a prerequisite in the area, especially in the higher levels. In-depth knowledge cannot but be helpful for those looking to practice CP, experience with which goes a long way in passing coding tests and interviews. Needless to say, accomplishments in CP are also a valuable addition in one's résumé, so this could be construed as a contingent benefit of a knowledge of maths.

CONSTRUCTIVES

STUDENTS

For students who don't want to fall out of touch with maths due to its lack of prominence in their academic coursework, taking maths-heavy elective courses and choosing a maths-related area of research are probably the best ways to avoid it. While, of course, many courses contain a nonzero amount of maths, it is arguably more behind-the-scenes and therefore only understood at a lower level of abstraction. A more abstract treatment of the subject is liable to not make more than a passing mention of it.
Of course, research internships and student communities like the Theory Group are useful as well.

INSTITUTE

Some suggestions that have been made for electives include a second, more detailed linear algebra course, more advanced courses on probability and related topics, and a course on topology (which can give insight into problem-solving techniques in any field). Moreover, it is worth noting that some of the existing advanced maths courses (available as electives, like Functional Analysis and Finite Element Methods) are not directly applicable in many fields of CS (except theoretical CS). Multivariate and/or vector calculus would also make an extremely beneficial elective.
With regard to faculty, one obvious way to improve the status quo is to make efforts to hire maths professors. If this is not feasible, it would be great if some courses could be taught by visiting professors from other reputed institutes (IIT Hyderabad and the University of Hyderabad have been suggested). Another option is the relaxation in the constraint on independent studies as mentioned previously.

CONCLUSION

It is widely felt that the undergraduate maths requirements at IIIT are "not enough". However, this to a large extent depends on whether one is aiming to pursue theoretical CS or a career in, say, software engineering. In order to strike the right balance, an increased number of electives is probably a good way to go.

That the number of maths faculty is not quite enough is an almost universal consensus; however, estimates of how far the numbers fall short of the ideal differ. A greater number of faculty with post-doc degrees has been suggested.

The benefits of maths for a CS student are undeniable, but vary widely depending on the domain chosen and the goals of the student. Software Development and related careers require little to no maths, so the course content is sufficient for those aiming for this; most other CS-related careers, as well as research fields, need a good deal more. IIIT being a research institute, it is important to provide for those entering these fields as well.

While most of the compulsory courses are on the useful side, there are many (arguably equally useful) courses that could be included but are not, even as electives. Incorporating these is worth considering, possibly even as replacements of the less applicable courses like Real Analysis. ■

PARLIAMENT PERCEPTION

- SHIVANSH SUBRAMANIAN

Introduction

For the most part, IIIT-H is a fairly student-friendly college. About 250-300 people per batch make the faculty-student ratio suitable, enabling communication between them. To facilitate better representation of students and their issues, the only point of contact between the Faculty, the Administration and the Students is the Student Parliament. It is a democratic body that represents students regarding all the problems they face. Hence, it ensures that every student has an equal voice. However, the problem with the idea is that the Parliament's power to make any impactful change is not enough. This, in turn, morphs into a whole bunch of consequences. Ultimately, it results in the disconnect we now observe between the Administration, Faculty and the Students.

Perception

Each November, IIIT conducts its Student Parliament elections. The process is simple enough, requiring the candidates to submit a manifesto and deliver a speech. The problem does not lie in the process, but the perception of the process. The voter turnout for First Years in 2019 was close to half, decreasing as you go up the years. Many people are indifferent as to who is in the Student Parliament. To drive home this point, ask yourself this: Do you know all the candidates who stood for election in your year? A more straightforward question

would be: Do you know the elected candidates from your year?

If the only point of contact to the Faculty and the

Administration is the Parliament, then why would people be so indifferent to it? It is because the Administration, for the most part, governs the power to make significant changes. Another point which adds to this is the interactions with Parliament. Most students do not know what the Parliament does, or has done. A detailed report, which is too long to read, is released at the end of the term. Due to its lack of readability, most people ignore it or glance at it at the most. Since people do not end up reading it, it harms the Parliament's perception, contradicting the very reason for which it is released.

Interactions

Continuing with this theme, we can argue that the Student Parliament does not sufficiently interact with the student body. Most students do not realise that activities are happening in college unless it is on Life@IIIT. Since the Parliament does not interact with students via this group, most students are unaware of what is happening most of the time. More frequent interactions would keep the student body more engaged and aware of the Parliament's work. Engaging with the community more would, in turn, result in a better perception by the students.
The flip side of this coin poses how frequently the students interact with the Parliament or its members. Lack of any formal channel creates a scenario where one can only contact a Parliament member via text. Such communication often ends up not happening, due to it being such an informal means of communication. Now, assuming that a section of students do not know any of their Parliament Members well enough to contact them comfortably, we would end up with a lack of representation, resulting in a section of students unable to communicate their opinions effectively.
An example of this is women's representation in Parliament. Since the vast majority of members are based in Bakul or OBH, it has led to a situation where Parijat issues remain unknown.

Power

The effectiveness of the Student Parliament is determined by its interaction with the Students and the Administration. For example, IIIT follows a strict policy of complete freedom for each course. Every professor gets to choose how to conduct the course, its assignments and evaluations. Hence, any input from the students regarding courses is considered only as suggestions. Any discontent must be resolved directly with the professor, where the Parliament cannot be involved.

For administrative decisions, the scene does not look any more optimistic. Almost all significant decisions are announced before the Parliament or any student is aware of it. Recently, the decision regarding the

2 Term plan and Diversity Pool fits this description. These policies were formed and finalised without any role played by the Student Parliament. It is to be noted that after the formation of such policies, the Administration did hear the Parliament's advice on it, which were considered as suggestions. For example, the two term approach was removed by the Administration after meeting with the Parliament due to the majority of students being against it. Such instances have led to the general feeling that the Student Parliament is not supported by the Administration, since significant decisions do not have their input in any way.

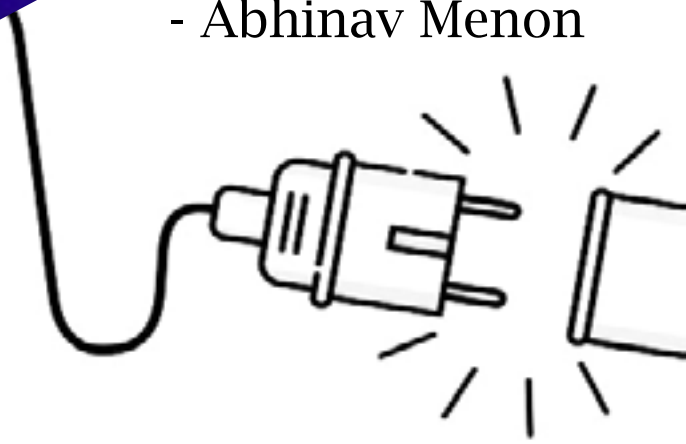
The Parliament does have a say in smaller administrative decisions, but the process often hampers any progress. There are committees which must be approached for almost all decisions, which increases the time requirement. On a positive note, some committees like Mess and Hostel interact well with the Student Parliament. Decisions regarding these are made quickly and aptly.

Conclusion

The indifference with which most students view the Student Parliament can be traced back to the Parliament itself. Lesser interactions, lack of a formal channel, lack of regular updates all lead to a general feeling that the Parliament is not involved in most issues. For significant problems, the Administration needs to be proactive in involving the Parliament before decisions are taken. This would lead to students acknowledging the role of the Parliament and hence would garner more respect. Having a formal channel of complaints or suggestions would help involve more students as well, leading to a more well-represented Parliament. ■

What if Online was the Norm?

- Abhinav Menon



He was chilling with his parents and brother in the living room. But something was different – something felt weird. The walls were still blue, the floor still white, the sofa still leather...so what had changed? The portrait of Charles Babbage on the wall? No, that was still there. Wait…it was different. Duller. Less – well, sparkly, sort of. It looked like it had been made on cloth or paper or one of those rare things. It definitely wasn't electronic, like it used to be. And the ceiling – hang on. Were those... plastic stars and planets hanging from the ceiling? It was like the kind of mobiles they used to hang on kids' cradles, like he'd seen in ancient pictures. Why wasn't the ceiling showing the sky like it was programmed to? Everything couldn't have run out of charge together. What was going on? "Mom?" he asked. "What's happening? Where's all the tech?" His mother turned around and looked at him. Her skin seemed darker somehow.

"The tech, dear?" she said kindly. "We had to get rid of it all, remember? The virus? Everything's non-virtual now.

How could you have forgotten?"

He couldn't believe it. Non-virtual? As in...not online? No computers, no phones, no screens? This had to be a nightmare. And not just any nightmare – the worst possible one. He'd have to learn how to enunciate; how to address people; how to convey things using "body language", whatever that meant; how to write – maybe even in cursive…

X's eyes flew open. He'd broken into a sweat, lying on his bed. According to the wall clock, it was three in the morning. He had to make sure. He got out of bed shivering, unable to bear the prospect of a tech-free future. Making his way to the living room, he looked around in the bright light that had come

on the second he'd entered. Thank goodness...the portrait was still electronic, the ceiling was showing the sky. Everything was all right. X had had the same nightmare every night for over a week now, and it was only getting worse. Maybe it was those news reports about a new pandemic somewhere in the US. But those were just hoaxes, he'd thought. That kind of stuff happened all the time. It blew over eventually. Some of them were nothing more than rumours. If this was a rumour, though, it was an unnaturally persistent one. It'd been nearly a month, and it hadn't died out. The others generally fizzled out in two, three weeks at most. This one, on the other hand, seemed to be reporting an oddly – and unnervingly – logical series of events, unlike its far-fetched predecessors.

But come on. Even the president of the US was saying there was nothing to worry about. How could he be wrong? He had to have all kinds of fact-checkers behind his speeches. People said he was the most powerful man in the world, so how could he mislead the millions reading his speeches and addresses?
Look around you, a tiny voice in his head whispered. Some of his friends' parents hadn't been letting them text him, for fear of the computer or phone catching a virus and spreading it to them through the mind-computer channel. Countries near the US were starting to impose barriers on extra-national communication – even emailing. (Seriously, did people still use email? Wow.)
He went back to his room, thinking deeply. He wasn't liking the look of things. He woke up four hours later, blinking the bright sunlight out of his eyes. His mom was yelling from her room."Don't make me open my mouth again, young man! I text and text and text...no response! Switch on your notifications, for heaven's sake!"

Picking up his phone, he clicked on the button saying "I'm up, Mom!" in response to her messages. The shouting abruptly ceased. His phone pinged.
"Today's not a holiday, lazybones! Log in, quick, and I shouldn't have to say it again!" said the text. Wow, was it only Wednesday?

IT FELT LIKE TEN DAYS SINCE MONDAY.

"I'm up, Mom!" he replied with his left hand, brushing his teeth with the other. He was wondering how his grandparents could have managed, growing up with phones that couldn't respond to their thoughts or even recognise the context of the messages. Did they really have to type every single letter manually? Just thinking about it made his fingers ache. It was all he could do not to keep the toothbrush from falling out of his hand. He quickly had a bath and sat down in front of his computer. Opening it, he looked at the icon of the video calling platform, Groups. The habitual three dots on his screen, loading, loading, loading. How slow did that app have to be before they switched to Boost or one of the better ones? The Groups chat was so slow he couldn't even ask his doubts in class. Sometimes he couldn't even see the live-streamed explanation the teacher was typing; he could only hear the TTS software reading it out. And he wasn't used to hearing stuff spoken out loud, so that wasn't great. Hold on.

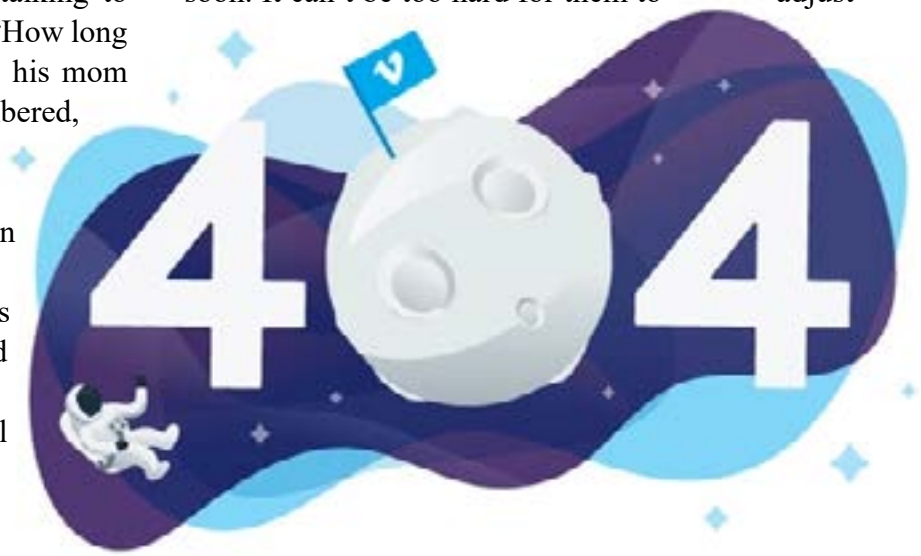
Groups had opened. It had stopped buffering. There was the page showing all his classrooms, the "chat", "activity" and all the other icons on the left.
Why were there no notifications? He opened each group one by one. Nothing.
No messages, no scheduled classes, nothing. So today was a holiday after all! He closed his

computer and got up to go back to bed, because who'd voluntarily wake up at seven in the morning? "Today's a holiday," he texted his father. "I'm going back to sleep." His dad sent him a grinning emoji. "I told you you should start reading the news, didn't I? Open it now, at least. Keep your eyes open for a little while."
Puzzled, X opened the news. His confusion didn't last long.

Biggest Pandemic In Technological History!

The headlines screamed out at him. He felt like his heart had fallen into his stomach. This couldn't be true. This was just another nightmare. Yeah, that's all it was – just a nightmare. Suddenly, his phone buzzed. He noticed his finger had touched the screen, sending a message to his dad without realising it. "It's no dream, son. It's a real pandemic. Switch off your phone and come to the living room, now." No – not the living room – why did it have to be the living room, of all possible places…
His legs felt like they were made of rubber, but he went. It was eerily similar to his dream – only the ceiling didn't have that awful mobile thingy, and the portrait of Babbage was switched off completely. But his family were sitting around and talking to each other. Looking at each others' faces. "How long did you keep your computer open, son?" his mom asked. She was still as fair as he remembered, thankfully. But she looked quite nervous.
"Just a couple of minutes.""Good. That's fine," she exhaled. "Don't open it again unless you absolutely have to."
"What? Why? What's going on?" He was afraid he knew the answer before his dad said it. "It's a
pandemic, son. I told you. Computers all over the world are incapacitated, and thisone spreads like wildfire. It's not like your day-to-day malware that the technician gets rid of by running some commands. It's a real, deadly virus. And it can be fatal – some computers just die within a week. There's no telling what could happen if it gets into us, too." X collapsed on the sofa. "You have to be kidding. Come on. This is a joke. It can't be an actual pandemic – that just happens in movies and stuff." "I wish you were right, son," his mom said. "But this is real, and we can't help it. Sometimes, the computers don't show any signs of having got the virus, even if they have it. They're the most dangerous – they convey it to other computers and people, and no one realises. Even if a computer's switched off, the virus could infect it, but that's the best shot we have at keeping them, and ourselves, safe. There's no way to tell; we just can't use them anymore." What was that expression his grandparents used to describe sad peoples' faces? Sombre? That's what his dad looked like. It kind of resembled the sad emoji, come to think of it.

X suddenly thought of something. "What about school? Exams? College? Y's job? What... what's going to happen to everything?" "Well... school's decided to have classes physically," his mother explained. "In person. You're going to have to go there. Exams, you'll have to write on paper, I suppose, though they haven't mentioned it. College – well, hopefully, it'll blow over by then. The kind of voltages Indian computers run on can't be good for this thing, it should end quickly here. Besides, our computers have such strong antivirus systems, so it shouldn't spread very much." (Spoiler: none of that worked out. The virus embraced both Indian voltage levels and antiviruses heartily.) "As for my job," his brother said, "they're kind of figuring it out. But we'll probably have to go to the office sometime soon. It can't be too hard for them to adjust

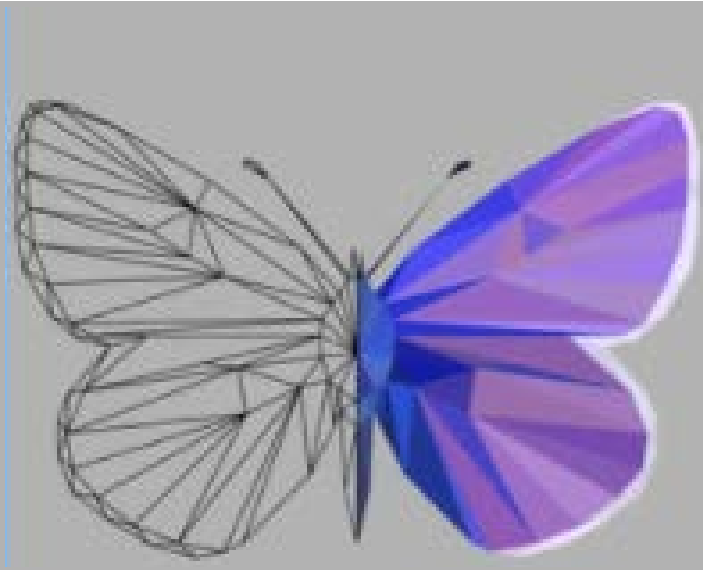


to this – the higher government offices do work physically, even in normal conditions." X spent the rest of the day in a daze, roaming around the house. Now he couldn't use tech, he was lost. What could he do? All his books were on his computer. He didn't know what to study for anymore. He couldn't even play Impostor with his friends.

Schools and colleges were having a massive headache trying to shift offline. There was a sudden scramble for real estate, because now entire batches of students had to be accommodated in buildings previously meant only for computers (which don't use the bathroom, dirty the floors or need fresh air). Support staff had to be called thrice as often as before, and then they demanded a raise, so there was talk of increasing the fees (which wasn't exactly peanuts earlier). The economy underwent a radical shift; what was later to be called the "housing bubble" went on expanding, with no reduction in sight. Luckily, his school (and the college he eventually joined), with admirable foresight, snagged quite some land and sat on it, so there weren't many problems. Three days later, the school sent a message. "School will begin on campus the Monday after next. Kindly purchase stationery and sturdy footwear and arrange for transportation. Exams will take place as scheduled, but on paper." Exams on paper? With, like, pens and stuff? Unbelievable. They expected people who'd never so much as seen a real pen in their lives to suddenly pick one up and just start scribbling away?

His parents found a bicycle somewhere for him to ride to school. He spent the next week figuring out how to ride it, getting used to the road signs and bumps, getting to know how to get around the city. It was a lot to take in, and he didn't enjoy it. Time really did go slow when one wasn't having fun. Then it was Monday. The first day of "offline" school. ("Never heard that word before," he thought. "It's funny – off-line, opposite of on-line. Huh.").

He took a wrong turn on the way to school. There were so many cars on the road, it looked smaller than it used to – then he realised that it was, in fact, a different road and that he should have taken the next right turn. He reached school late, panting and out of breath. Why did it have to be so far? He looked around for his class, 12A. Luckily it was on the ground floor. He walked in and sat down on closest empty seat, then realised everyone was staring at him. The teacher was looking at him like that red emoji,



with the eyebrows drawn together and the corners of the mouth bent down – wait, was she angry? "What did I do?" he said.

"You're supposed to say "excuse me, ma'am" before entering," someone said. "We all did it." "Oh. Sorry." He got up, his face burning, and went to the door and executed the procedure. The teacher began to teach. That was the longest day of his life. But when the bell rang at three in the afternoon, and he figured he could finally go home, a strange voice came over the loudspeaker. "Good afternoon, students. This is your principal speaking." (Was that really how he sounded?) "This announcement is with regard to your board exams – they will take place on paper, as you know. We will have mock exams to get you acquainted with the new mode. Please remember that this is a huge logistical challenge for the board, so there is a chance your exams will be postponed until things settle down, in the hopes of eventually conducting them online, the way you are used to."

There is a chance. He didn't know it at the time, but he would hear those words periodically over the next six months, sometimes weeks apart, sometimes days. The closer he got to the exams, the further they were postponed. Again. And again. And again.

The wait was unbelievable. He'd been preparing for these exams for almost a year and a half. He struggled to keep studying, to keep his motivation afloat. But it only got harder and harder, and not having any tech didn't help with that.One by one, though, the various colleges and the board gave in and conducted their exams online. The offline exams were too much to organise, and it was getting ridiculously late. "Set up a firewall or something, your computers will be fine," they said. But every day, more computers across the country conked out. About three-quarters of the infected computers recovered eventually, but the rest just became scrap metal.

Technicians were working 20-hour shifts, struggling to figure out how to treat the infected computers. Antivirus software trials were expedited, but there was no sign of a viable candidate. Every day, more and more people resigned themselves to the fact that this virus was here to stay. X wrote whichever college's entrances he had to, taking the risk. Luckily his computer didn't catch it, but he didn't do as well as he might have if they'd happened on time. Despite all that, he got into his dream college. But the fight wasn't over; cases were only increasing by the day, and there was no end in sight. Even his college seemed to be considering starting on campus. That was what really freaked him out. Meeting people in person? Making expressions, gestures and whatnot? Socialising without the option of seenzoning? Wow. That was going to be new. Finally, the opening day of college arrived. There was a week-long induction programme. He and his to-be-batchmates were herded into huge classrooms, listened to speeches, participated in events – everything for the very first time. They interacted with seniors, met their professors, and so on. It was a surreal experience. No one knew how to deal with the situation – even the seniors had only experienced college online, after all. But somehow, they managed to create a welcoming atmosphere for the freshers, answering all their doubts, organising meets, and so on. Classes were terribly hard to get used to, too. When you wanted to ask a doubt, "raising your hand" wasn't as easy as clicking on a button anymore – you had to actually raise it, and you couldn't lower it until the teacher finished what they were saying. To say it hurt later would be an understatement. Not to mention the fact that as long as your hand was up, everyone wasstaring at you, drilling a hole in your head. Unbelievably awkward. There was always a lingering incompleteness in the air – the jokes in the chat during the class, the crisp accent of a TTS engine, and the ping! of phones when a new friend sent a message were all missing. It just wasn't the same. However, many people made new friends, enjoyed their classes, or learnt new things, there was always a nagging thought at the back of their minds – "This can't last. It'll get back online soon. There's no other way." The impermanence was implicit.

The professors dropped only tantalising hints about this supposed eventuality. "Maybe in January," one of them said. "You'll be lucky if you can attend your second-year classes online," said another. These prophecies became the substance of much discussion at the canteen, where students had made it a practice to hang out at night. It did work out, in the end. The president of the US was voted out of office. The freshers went back to their computers and their phones after a while. But they'd shared something together that none of their seniors or juniors ever had or would, and for years afterwards, they fondly recalled 2200, the year they'd spent offline.Years later, sitting in his home and working on his computer, X suddenly recalled something his great-grandmother had told him when he was little.

It was a story that she'd heard from her grandfather about something that had happened when he had been a toddler, over a hundred years before. He remembered how vividly she'd described her grandfather's and his parents' world – a world without the kind of tech he'd grown up around, a world where such devices seemed unthinkable. A world where memory was restricted to 16GB; where people had to travel several kilometres every single day to work; where not everyone owned a mobile phone – where people were still getting used to technology. Could that really have been just a hundred years before? And then there was a pandemic – one that affected

humans.
The population had been exploding. People were virtually squeezed together – overcrowded slums, packed cities, and so on. Smoke from vehicles used to blot out the stars at night and give people allergies during the day. Rivers turned from blue to green to brown. Species started disappearing. Meanwhile, tech was only beginning its hold on humanity.
Finally, nature took the situation in hand.

There were a hundred theories about its origin – a rogue government bio-engineered it, it spread from a bat to a human at a market, and so on – each as improbable as the last. But what mattered was that it spread to the whole world in a matter of months. Schools and colleges shut down. Economies collapsed. Everything had to be shifted online, in a world that was built on human contact. Exams were postponed, and when they were finally conducted, their results were delayed. Students without access to tech struggled to adjust to online classes. Entire businesses came to a standstill.

But everything returned to normal eventually – well, whatever was normal back then. X supposed people met their friends on their college campus, started travelling to work every day again, and so on. Boy, that was hard to imagine. 2020 must have been one rollercoaster of a year.

But it got him thinking – that had been more than a hundred years ago. Now the world was online, and adjusting offline was hard, like he knew firsthand. The tables had turned.

They'd got through it, though, just like his great-grandmother's great-grandparents had. Eventually.

MAYBE NOT SO MUCH HAD CHANGED AFTER ALL. ■

Sheets to Lull To

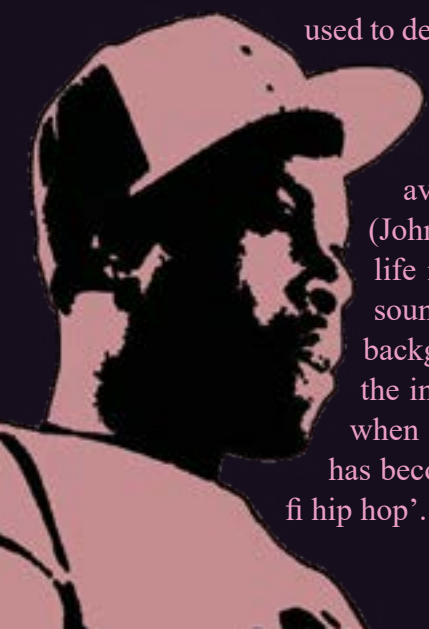
- Pratyaksh Gautam

Lo-Fi?

Music spawns countless genres, with new ones popping up by the dozens every few years. Among the genres to come to prominence in the last few years, lo-fi stands out as one of the more "un-interesting" ones. It isn't bizarre, avant-garde, nor is it dominating the top 40. It doesn't have any artists who constantly make headlines for their fashion or relationships.

It begs the much more "interesting" question, why is such a seemingly niche genre enjoying growing popularity?

Lo-fi, short for 'low fidelity' is a genre of music drawing largely on hip-hop, with elements of sampling, classic old school drum machine sounds, unquantised drums, slightly detuned synths, repetition, and repetition.



While the term 'lo-fi' alone can also be used to describe aspects of the sound of genres like garage rock (à la the Black Keys or the White Stripes), and avant-garde recordings (John Cage), it's also taken life in the form of this relaxed sound which lulls on in the background of many a vlog on the interwebs. Used in isolation when referring to music, 'lo-fi' has become synonymous with 'lo-fi hip hop'.

So, What's Different?

Most genres of music aim to grab your attention and move you, or to make you move. Lo-fi established itself as a genre whose aim is to not draw too much attention, as demonstrated by the title of the largest lo-fi live stream on the internet, ChilledCow's 24x7 "lo-fi hip hop radio - beats to relax/study to". They're repetitive, relaxed and laid-back beats, with rarely any comprehensible lyrics, to be played without needing to pay attention, as filler, think Phillip Glass meets J Dilla.

Simply put, lo-fi hip hop is this generation's elevator music, well suited for late-night study sesh's, or other questionable activities best appreciated with a calm ambience. lo-fi has existed in some way or form for a long time, but has recently attracted a large following.

There's also the element of the music responsible for its name, the low audio fidelity. On most lo-fi songs, you can hear the vinyl crackle (near certainly added on a computer), and often the mechanical noise and slight detuning one would expect from an old gramophone record. Musicians go to such great lengths to do this because it became clear that having the most "perfect, clean sounds" didn't necessarily make the music any better. People like these imperfections, the underlying reason is anyone's guess really. Maybe it's because they mimic the imperfections that we as humans have. Life's wonky so it feels good when art is too, perhaps.

A Bit of History

Once upon a time, ‘lo-fi’ was a lesser-used term in favour of the genre of music also known as ‘home recording’ or ‘DIY’ music, which is arguably completely distinct from today’s ‘lo-fi hip hop’. This was around right after the Beach Boys had pioneered the use of the recording studio and its very equipment as a fundamental part of the music-making process.
Artists like Ariel Pink and Beck carried forward this general principle and style with varying layers of experimentation added and experienced considerable critical success.

However, the genre we’re talking about right now only draws influence from ye olde lo-fi. Lo-fi hip hop traces its origin much closer to house music, with a specific genre of this “chill out” variety, ‘ambient house’ being the closest thing to a direct precursor. House music was at its heart, club music, music to dance to. ‘ambient house’ gained popularity among circles of DJs in parts of Europe such as London, Ibiza, and Paris, as lighter tracks to play when the dance floors were a bit less crowded, giving them a chance to catch their breath.

Well, that’s one part of it at least. The ‘hip hop’ of it brought with it a great lineage of jazz sampling, R&B sensibilities and just plain nasty drums. ‘J Dilla’, who many call the ‘Godfather of lo-fi hip hop’, revolutionised the world of hip-hop by turning off ‘quantise’ on his sampler.

The ‘quantise’ button acts as a kind of “auto-tune for rhythm”, and puts offbeat notes back onto the square grid. Dilla played with it off, humanising his beats, and introducing an infectious, offbeat groove, now commonly known as ‘dilla feel’.
He managed to grab the attention of the world of hip hop with his work on albums by artists like De La Soul, A Tribe Called Quest and the collective the Soulquarians.

“Jazz is the mother of hip hop”, as Robert Glasper rightly said, and that influence is crystal clear on lo-fi hip hop, as one can often hear jazz pieces acting as samples for hip hop tunes in general, and lo-fi hip hop in particular.

The Internet and Bedroom Producers

Lo-fi hip hop gained traction slowly in the 2000s with nujabes' soundtrack for 'Samurai Champloo', and albums such as 'Donuts' by Dilla, but by and large the greatest increase in its following as a genre came in the 2010s. With the internet being used by an increasing number of people, the ease of uploading music recorded at home allowed many more to make music. Very often these were on pirated copies of digital audio workstations they got off the net (Martin Garrix *wink wink*), with EDM being another example of a genre which saw a period of immense creativity and popularity as a result. Clairo's "Pretty Girl" is the archetypal example of a song which no one would ever have expected to gain any traction without the miracle of the internet.

With YouTube's launch of live streams, came the 24x7 radios, the most popular of which ended up being streams playing music from genres such as vaporwave, EDM, and lo-fi hip hop. ChilledCow's influence in this matter was unprecedented; they were the single largest contributors to the popularity of a genre of music since perhaps Motown with black soul in the 70s. Okay, maybe I'm exaggerating a bit there. Nonetheless, artists like jinsang and idealism gained much of their following as a result of people finding their communities have formed around ChilledCow and other similar streams.

Recently lo-fi truly broke into the mainstream with the chart-topping success of "death bed" by Powfu, which featured a sample from "coffee" by beabadoobee.

While detractors of the genre criticise the simplicity of the genre, for many that's just what draws them to it. Music has always been both an art and a craft, the ultimate grace in music doesn't come from its complexity, but from its inexplicable ability to convey emotions. Sometimes all you need is a chill beat to listen to while you clear your mind and get some peace, and sometimes it can be the only way to get yourself to calm down. It can be the key to an hour-long nostalgia trip or the soundtrack to an hour of work at the desk. Music has different meanings and different purposes in varying settings. People approach a certain kind of music seeking a specific purpose from it about as often as others approach it with no such preconceptions, and lo-fi hip hop seems to have hit a sweet spot among listeners coming to the music from both factions. ■

Hotel California

The Eagles

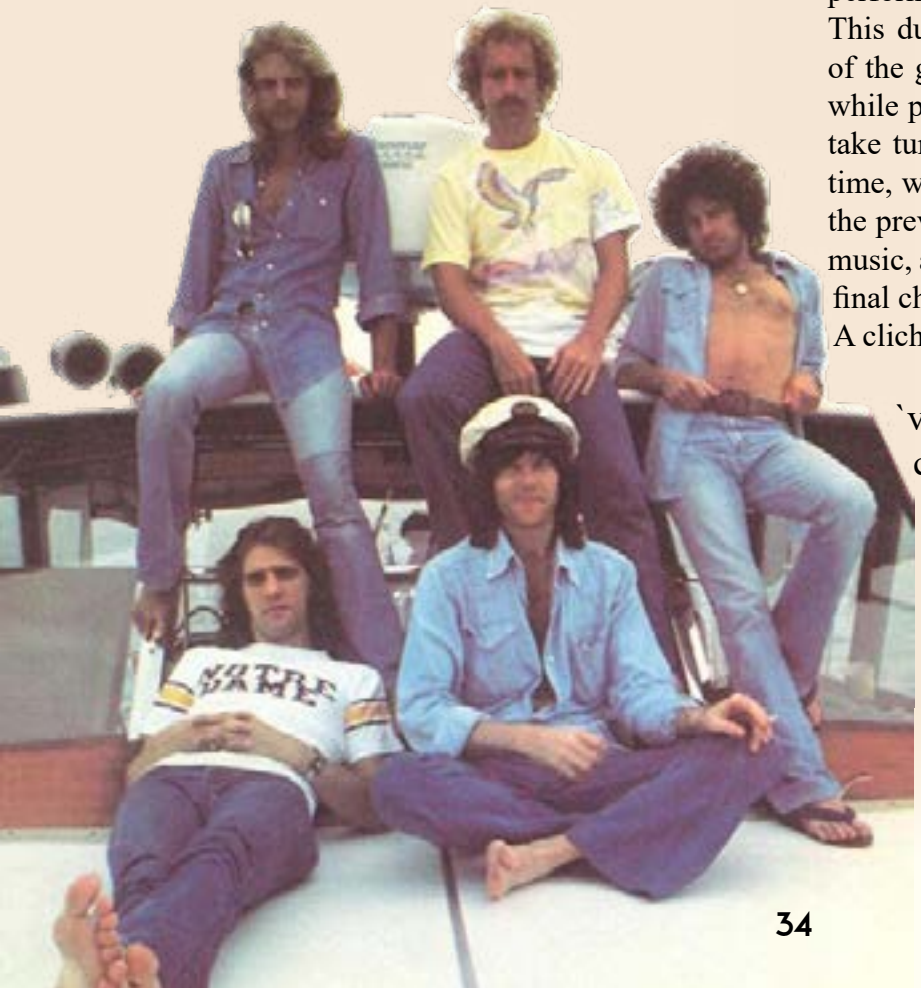
IS IT REALLY A 'LOVELY PLACE' ?

- Abhinav Gupta

"Welcome to the Hotel California, such a lovely place"

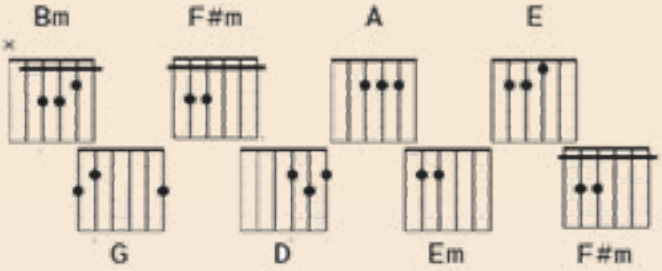
We've all heard these words at least once in our lifetime. Arguably one of the greatest Rock n' Roll songs of all time, Hotel California has left a legacy in the world of music that is truly unparalleled. The song has become a cult classic, played over numerous rock stations to this day. It has consistently shown up in cinema, is frequently mentioned in pop culture and has been countlessly covered by musicians all around the world.

For instance, who doesn't remember the popular 'Jesus' scene from *The Big Lebowski*? Many critics attribute the success of this breakthrough character to the Spanish version of the song being played in the background. Or who remembers when it was played during the Sopranos? A very popular song, indeed!
https://www.youtube.com/watch?v=KdOjVsfuKPs



But before we get into what the song is really all about, let's take a minute to admire its musical prowess. It's truly a breathtaking song, one that every guitarist in the world has attempted to learn and play. For starters, it's got a gorgeous chord progression:

`Bm-F#m-A-E-G-D-Em-F#m`



Wow. Just Wow. Sounds absolutely marvellous. This guitar solo is one of the most celebrated musical pieces in the world. However, I like to call this a **guitar duo**, because this masterpiece is performed by Don Felder and Joe Walsh together! This duo is a classic guitar face-off, between two of the greats. They battle it out against each other, while playing for the same team! Felder and Walsh take turns and play this majestic solo 8 beats at a time, with each sequence getting better than the previous one! Now generally, in rock music, a guitar solo comes before the final chorus.
A cliche song format is:

`verse - chorus - verse - chorus - **bridge - solo - chorus**`

But The Eagles chose to **end** the song with the guitar solo. There is no final chorus, and instead, the ~~solo~~ duo comes right after the bridge, as Felder and Walsh set in and play those absolutely phenomenal notes on their guitars! This duo goes down in history as one of the greatest guitar pieces ever composed.

What an incredible way to end the song!

Here's a mellifluous live version of this song, check out the guitar coda at the 4:30 mark.

https://www.youtube.com/watch?v=x47aiMa1XUA

The music, the chord progression, the masterful guitar ***duo*** at the end, Don Henley's splendid vocals and sharp drum beats - all of these combine together to create a spectacularly unique song.

But what's really special about this song **are the lyrics.** Some of the most thoughtful words ever penned down in music history, it's ironic that no one's really sure what they actually mean! And The Eagles haven't really confirmed it, perhaps they aren't sure about it either. But well, that's the beauty of musical words, it's left to the interpretation of the listener.

Some people believe it's all about a crashing economy, or a classic heartbreak song...but I believe that this song is about something far more serious. It's one of the most enlightening songs I've ever heard, and as you read further, you'll see why.

YOU CAN CHECK OUT ANY TIME YOU LIKE, BUT YOU CAN NEVER LEAVE.

These are the last lines of the song, before the long guitar coda. Some believe the duo to be the heart of the song. But for me, it's these lines preceding the guitar coda that is the core of this beautiful song! As the solo is about to set in, Don Henley screams, **'you can check out any time you like, but you can never leave'.**

And there is a split-second pause. The drums stop. So do the guitars. And for that immensely small time frame, it hits you, like a football in the face. **That is my moment of epiphany.** For in a matter of milliseconds, those two lines penetrate your heart and soul and tell you what the song is really about - the creation of a trap of your own sins, and how you're stuck in it for eternity. How you may try to check out, but no matter how many times you try, you could never truly leave.

And as soon as that realisation strikes, the guitars set in, the beginning of the greatest guitar ~~solo~~ duo in the world. And for the remainder of the song, you're not only admiring the magnificent guitar notes...you're also attempting to comprehend what Don Henley really meant when he said, that 'you can never leave'. What was this 'hotel' he was speaking about? And was it really a lovely place? Why could you never leave it?

Let's break this down, line by line.

THE FIRST VERSE AND CHORUS - SHE SHOWED ME THE WAY.

On a dark desert highway, cool wind in my head.
Warm smell of colitas, rising up through the air.
Up ahead in the distance, I saw a shimmering light.
My head grew heavy and my sight grew dim, I had to stop for the night.

There she stood in the doorway, I heard a mission bell.
And I was thinking to myself, if this was heaven or this could be hell.
Then she lit up a candle, and she showed me the way.
There were voices down the corridor, and I thought I heard them say....

Welcome to the Hotel California.
It's such a lovely place!

Now when I first heard the song, I honestly thought he was speaking about a woman. How, while he was driving on a lonely dark road, really depressed, he came across this shimmer of hope, in the form of a woman. He wondered if it was dangerous to go through, but she got him infatuated with that candle of hers, 'showing him the way' to the hotel - which he calls a lovely place!

But then, after my moment of epiphany during the popular '*you can never leave*' line, I came back to this verse again. And that's when I realised that it wasn't a woman he was talking about. The woman was most certainly a figment of his imagination. A mere thought, that looked so real and so lifelike because his "*head was heavy and his sight was dim*". But why was he seeing the woman? Was it all just happening inside his head? It's understandable that he was speculating it to be *heaven or hell*- after all, you don't just follow strangers into a mysterious hotel!

But then he went on to call Hotel California a lovely place! And I really thought it to be a lovely place too! So why was he unable to leave? Why was he trapped inside this lovely hotel? So I moved on to the second verse, hoping for some more clarity to satiate my inquisitiveness.

Her mind is tiffany twisted, she's got the Mercedes Benz - Uh.
She's got a lot of pretty, pretty boys - that she calls friends.
Last night in the courtyard, sweet summer sweat.
Some dance to remember, and some dances to forget.

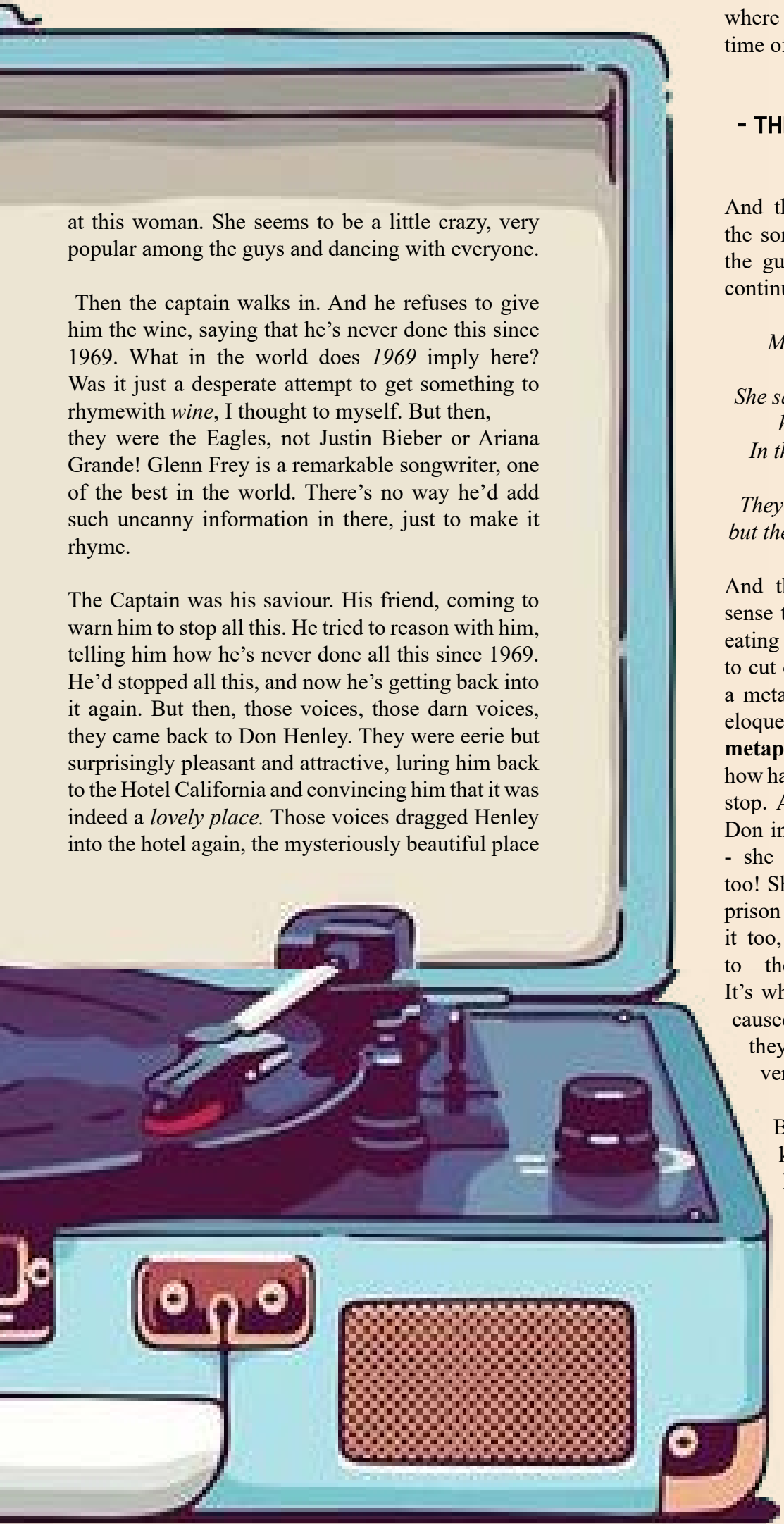
So I called up the captain, "please bring me my wine?"
He said, "we haven't had that spirit here since 1969".
And still those voices are calling from far away...
To wake you up in the middle of the night, just to hear them say...

Welcome to the Hotel California, what a nice surprise, bring your alibis.

Okay, so we know Don Felder's entered this lovely hotel with this mysterious woman he found in the first verse. He's really happy, he's dancing a lot. He seems to be forgetting some of the dances though, perhaps because he's drunk. And he's really surprised

THE SECOND VERSE AND CHORUS - THOSE VOICES ARE CALLING FROM FAR AWAY

PING!



at this woman. She seems to be a little crazy, very popular among the guys and dancing with everyone.

Then the captain walks in. And he refuses to give him the wine, saying that he's never done this since 1969. What in the world does *1969* imply here? Was it just a desperate attempt to get something to rhymewith *wine*, I thought to myself. But then, they were the Eagles, not Justin Bieber or Ariana Grande! Glenn Frey is a remarkable songwriter, one of the best in the world. There's no way he'd add such uncanny information in there, just to make it rhyme.

The Captain was his saviour. His friend, coming to warn him to stop all this. He tried to reason with him, telling him how he's never done all this since 1969. He'd stopped all this, and now he's getting back into it again. But then, those voices, those darn voices, they came back to Don Henley. They were eerie but surprisingly pleasant and attractive, luring him back to the Hotel California and convincing him that it was indeed a *lovely place.* Those voices dragged Henley into the hotel again, the mysteriously beautiful place where you can find a room at any time of the year!

THE BRIDGE - THEY JUST COULDN'T KILL THE BEAST.

And then, we enter the bridge of the song. The drums go quiet, and the guitars soften, as Don Henley continues..

Mirrors on the ceiling, big champagne on ice
She said, we are all just prisoners here, of our own device.
In the master's chambers, they gathered for the feast.
They stab it with the steely knife, but they just couldn't kill the beast!

And that's it! It all finally made sense to me! They weren't actually eating meat at the feast, and trying to cut open an animal's guts. It was a metaphor, that the Eagles use so eloquently throughout the song - **a metaphor for addiction.** No matter how hard they all tried, they couldn't stop. And the woman - who lured Don into the hotel in the first place - she seemed to be realising this too! She knew she was trapped in a prison of her own sins. Don knew it too, that they were all addicted to the alcohol and to the drugs. It's what made his head heavy and caused his sight to grow dim. And they tried and tried and tried, so very hard, to stop all of this...

But alas, they just couldn't kill the beast of addiction. It had taken over them, just as a tsunami sweeps out the entire coastline. And they knew they were trapped. A prison - of their own device - which they had created in the form of the 5 star 'Hotel California'. Yes, there were mirrors on the ceilings and lots of champagne, but it was

nothing but a figment of their imagination. It never ceased to exist, because it never existed to begin with! It was something their minds created due to whatever they were high on. And it did seem like a lovely place, but all it was, was a prison.

And they were trapped, like rats in the cellar.

OH BUT WAIT....LOOKS LIKE HE WASN'T READY TO GIVE UP YET.

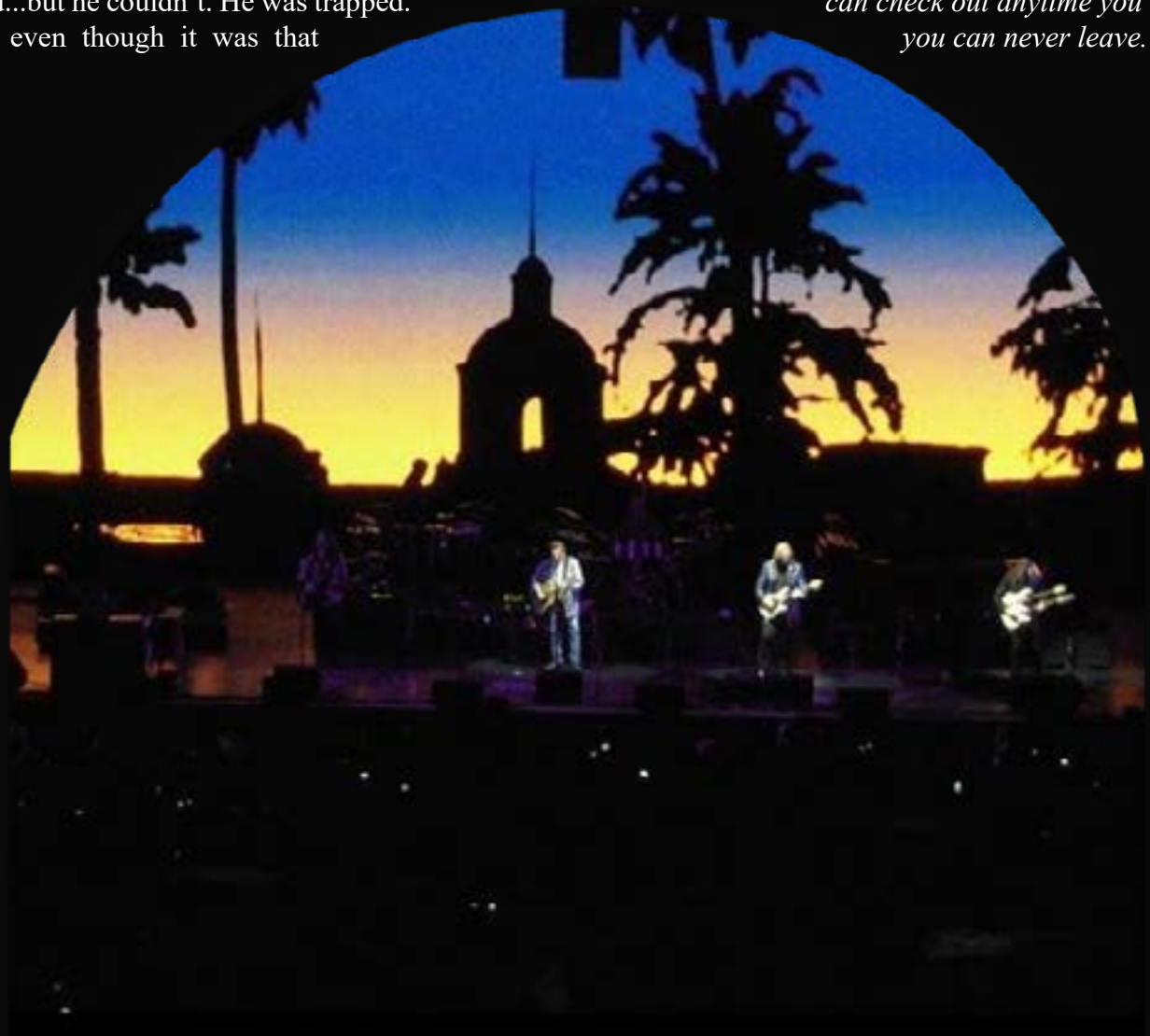
Last thing I remember, I was running for the door
I had to find the passage back to the place I was before
Relax, said the nightman, we are programmed to receive
You can check out anytime you like, but you can never leave!

Don had finally realised that he was in a prison, and he was desperately trying to get out of it. He ran and ran, trying to get back to how it was before he was high on the drugs, or before he was drunk out of his mind...but he couldn't. He was trapped.
And even though it was that woman who lured him into the hotel, he was the one to blame. He was in a prison of his own sins.

The drugs destroyed him. Alcoholism made it seem like it was all resplendent, but it really wasn't. The woman was 'peer pressure' which he gave into, enerng the hotel of his own volition. He realised soon enough that it was all a trap, but it was too late, and he just couldn't kill the beast. The nightman allowed him to check out. But he couldn't leave, and that's how the beast of addiction took over him and his life.

And then, the iconic guitar coda sets in. And it's a perfect ending, because not only do you relish those harmonious notes, but you're also left seriously contemplating the meaning of the song and the relentless nature of addiction.

You know you can stop, but you don't want to. And soon, you desperately want to stop, but you can't. Guess they were trying to tell us that these momentary pleasures are really not worth it. It's a message to live clean and healthy. Because *you can check out anytime you like, but you can never leave.* ■



- Abhigyan Ghosh

About TopGear

(For Those Who Live Under a Rock)

A magazine as well as a TV show, we are talking about the TV show only here. Top Gear has been one of the BBC's most commercially successful programmes since its relaunch. It has become a significant show in British popular culture, with episodes also broadcast internationally in many countries in Europe, North America, Southeast Asia and more, making it the most widely broadcast factual television programme in the world. Its success has led to various forms of merchandising, including live tours, special DVD editions and books, as well as spawning a variety of international versions in various countries, including the United States, Australia, South Korea, China and France.

Started in 1977, it initially aired on BBC Midlands and then on BBC Two, which was aired only in the UK. It was rather different from the Top Gear format that most of us are familiar with. The show was only 30 minutes long and covered topics actually related to motoring like new cars, road safety and consumer advice.

After the departure of Jeremy Clarkson in 1999, the show, while still favourable, began to decline, affected further by additional members of the presenting team leaving the programme. Notable faces like Tiff Needell and Vicky Henderson started another well-known show on Channel 4, which was called Fifth Gear, as they could not use the name Top Gear due to issues with IP rights.

The rendition most of us are familiar with started in 2002 and was the brainchild of Andy Wilman (who still works with the trio on Amazon Prime's 'The Grand Tour') and Jeremy Clarkson. The first season of the show was eerily similar to the format of Fifth Gear with Jeremy Clarkson, Richard Hammond and Jason Dawe. In the second season of the show, Jason Dawe was replaced by James May. The new rendition also featured a tame racing driver.

Some say he was a racing driver named Ben Collins and that when he wrote a book, he was sued by the BBC. All we know is, he is called 'The Stig'.

In the words of Jeremy Clarkson from the first episode, "We needed someone who could tame it so we got ourselves a professional racing driver who could post consistently fast lap times. We could not do that now we call this thing the Stig okay. We do not know its name we really do not know its name and no one knows its name. We do not want to know because it is a racing driver and racing drivers have tiny little brains and therefore worthless opinions and they are very dull. Doctors actually call it Mansell syndrome and its job is simply to go out there and drive fast. "

The Chemistry of the Original Trio

"What I think what's lovely about the show is this there's a bond and I would call it love between three of you" -- Jonathan Ross to Jeremy Clarkson.

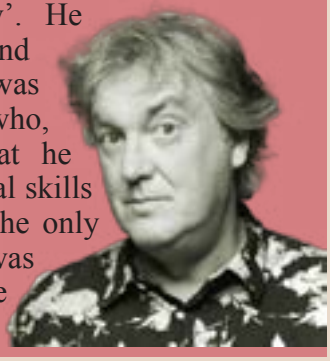
One could argue that Top Gear was not really a motoring show. When we compare it to Fifth Gear, which was a contemporary with far less success and reach, it is easy to see that fans of Top Gear went beyond motorheads.

"I like Top Gear. No, I'm not a car fan I don't really see the allure of vehicles I quite like him and they're quite nice guys but they're not a big deal for me."

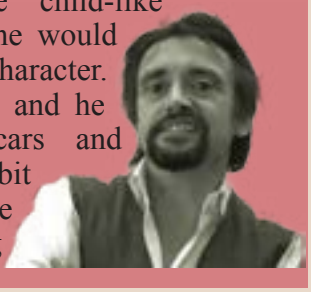
I am again quoting Jeremy Clarkson here: "I genuinely don't think it's a car show. Cars are in it. It is car themed. But it not any more than 'Countryfile' is about actual farming." Now let us look at the presenters themselves.

Top Gear had 3 presenters who did everything, from car reviews to specials, and each of them had their individual personalities, which did not necessarily reflect on their actual characters.

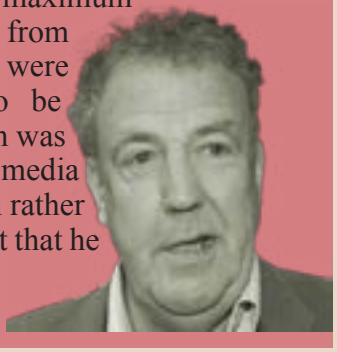
James May was portrayed as the sensible one. He would choose an Aston Martin over a Ferrari or a Porsche. However, James May actually owns a in real life. He had a more subdued taste in cars but was terrible at finding directions. He was also the most cautious driver in the group and hence was nicknamed 'Captain Slow'. He was the more calculated and rational figure. He was portrayed to be like a nerd who, although is smart in what he knows, often lacks the social skills required, which might be the only legitimate part of him that was carried on to the character he played.



Richard Hammond was short and, as a result, was seen to have more child-like preferences through which he would bring out the humour in his character. His tastes were 'American', and he loved overly fashioned cars and clothes. Since he was also a bit younger than the other two, he was often portrayed as using too much cosmetic product to attract women, things that teenagers do.



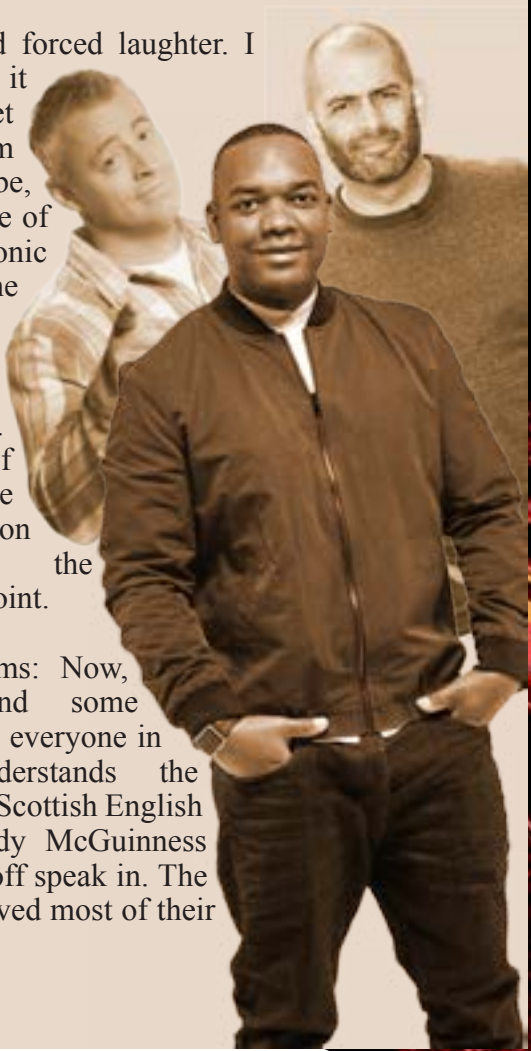
Jeremy Clarkson was a total buffoon. His theory in life was that speed and power could solve everything. He was also the more controversial of the three and the funny one. No one took him seriously, and as a result, the maximum comedic effect came from Jeremy, although the former were not unfunny. This was to be expected as Jeremy Clarkson was seen in the entertainment media for some time as a comedian rather than an automotive journalist that he started out as.



The Problem with the New Set of Presenters

Too many people. At this current moment, there are 5 people and the Stig who appear in all the formats and sections of the show, which in my opinion is too many. You cannot expect people to associate so many not so iconic faces with that show.

No chemistry and forced laughter. I would agree that it is difficult to get three random strangers to vibe, and it was a stroke of luck with the iconic trio, but the element of laughter seems more forced in the new series. Although a lot of jokes in the previous version were scripted, the delivery was on point.



Language problems: Now, this will offend some Britishers, but not everyone in the world understands the Northern English/Scottish English accents that Paddy McGuinness and Freddie Flintoff speak in. The iconic trio, who lived most of their

lives in and around London, spoke a more southern accent which was understandable by most people. It is a very subtle difference for the people at the BBC, but you cannot have a global audience with a local accent.

The actual car reviews are irrelevant to the show. It is okay to have cars in it which are 2-3 years old. There isn't a need to go to Geneva or Tokyo and get the latest updates on cars, and most people do not really want to see that anyway. Of course, that sort of content would go well with car enthusiasts, but not many people would relate to it.

Chris Harris is not a funny man and we do not want him to be funny. Chris Harris has made his career in automotive journalism and might be the best automotive journalist who can talk about the attributes of a car while holding an oversteer in a BMW M car, but he does not have the profile for presenting Top Gear. When we see him in scenes with the other two trying to do silly things, it just does not sit right with the kind of work he has done before. The viewers expect him to be a serious face, and the comedic tone of the show does not suit him. He would be better off in Fifth Gear, where his talents would be put to better use.

Lack of character development. If you read the previous paragraphs, it is obvious what I am going to talk about here. The characters simply aren't well defined and are reading off a script with funny bits handed out to each other. None of the presenters build on their characters.

Sack Freddie and Paddy and get Gordon Ramsay and Matt LeBlanc instead (if the budget allows it). Both are car enthusiasts and are inherently funny people. Rory Reid, who currently does the specials, should come back to present as he is also funny and has a good sense of dialogue timing. But the point is, get someone who has some interest in cars and is a comedian. That will automatically make the show a lot more entertaining for the general public, and the delivery of even slightly funny jokes will result in much bigger laughs. And if you really want a person who could replace Jeremy Clarkson, who could be a better fit than Simon Cowell. He is as stubborn and controversy-ridden as Clarkson and is not fit to judge 'Britain's Got Talent' anyways. Another good suit would be James Corden. His talk show sucks anyways, and this could be one more shot to relive the days of Little Britain for him. What Top Gear really needs is a person with more conservative views, who people hate enough to watch them do stupid stuff on the telly. ■

Blood isn't Always Thicker than Water

- Harshwardhan Prasad

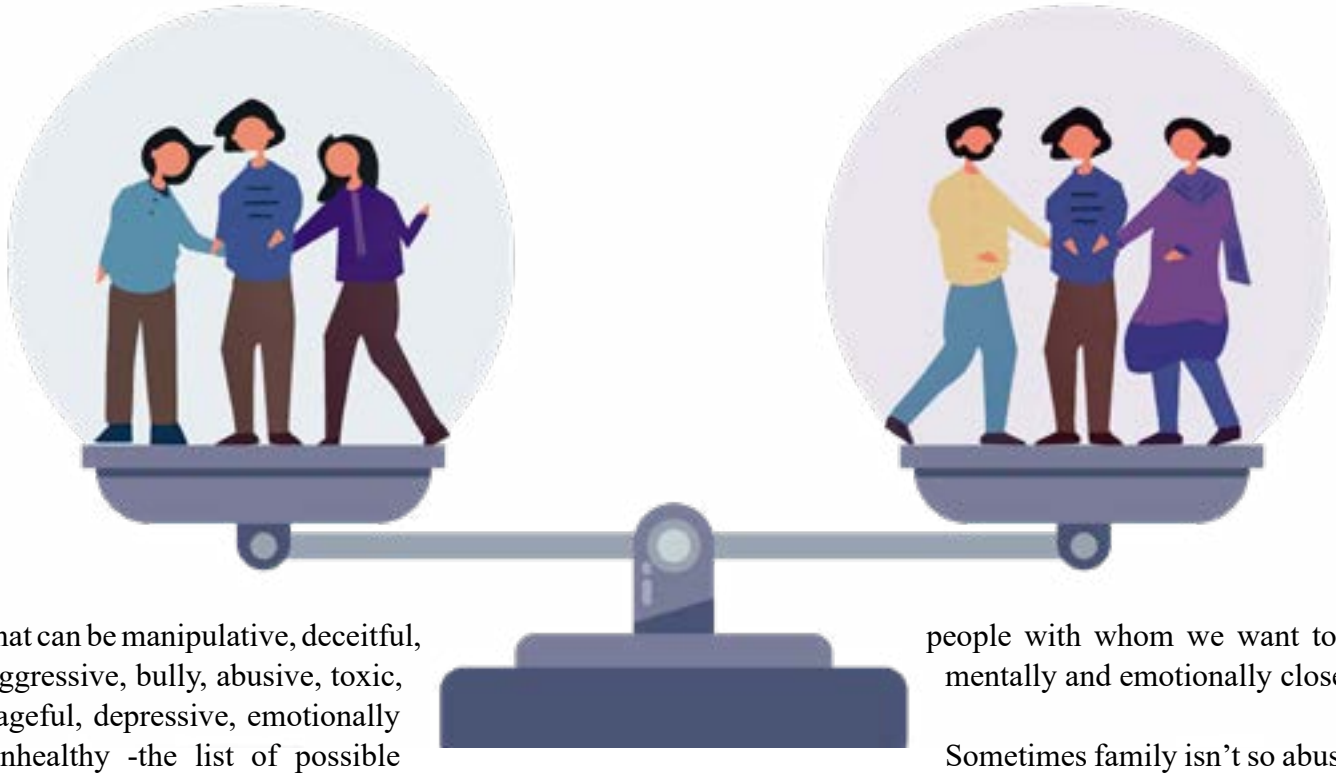
Almost everyone uses "blood is thicker than water" to justify choosing family bonds over the bonds we have made. However, the actual quote is -

"The blood of the covenant is thicker than the water of the womb."

The original meaning of the phrase is that bloodshed on the battlefield creates a stronger bond between soldiers than simple familial or genetic ties. In principle, it reflects that the bonds you choose for yourself can mean much more than the ones you are born with.

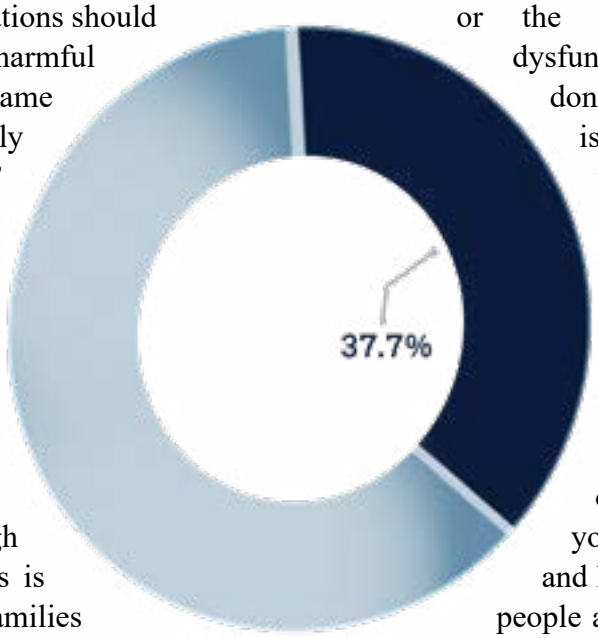
Most of us have been told that family ties are highly revered and prized, and they should come above anyone else in one's life regardless of the character or emotional health of the person or how they treat us. Instead of such a blanketed statement, I'd like to say that it depends on many factors. Most dictionaries define family as a group of people who are descended from a common ancestor, basically bounded by blood, and live together in a household. However, I choose to believe in Urban Dictionary, clearly a far superior source, that family is a group of people who genuinely love, trust and care about each other, regardless of whether they share blood or are forced to spend holidays pretending they like each other.

We live in a culture where if someone is a parent, sibling, or any blood relative then it is considered inconceivable to not have that person in life. Doing so is deemed an abnormality and is said to indicate a major "flaw" within the person. This is a wrong mindset and, at worst, a damaging one. There may be people in our lives who are family- a parent, sibling, cousin, other relatives, you name it, who are outrightly bad for us. While some family members are kind-hearted people who treat their loved ones with respect, genuine love, and support, there are a wide-sweeping number of people who have family



that can be manipulative, deceitful, aggressive, bully, abusive, toxic, rageful, depressive, emotionally unhealthy -the list of possible harmful traits just goes on and on. Take, for example, Katy Perry, who's parents never supported her music career and criticized the songs that she wrote and sang. But that didn't stop her from following her passion and reaching great heights in her career.

An abusive family member is no way different than a random cruel person who's abusive. To maintain mental along with emotional integrity and well-being, these kinds of toxic relations should not be held close. To stay in a harmful relationship out of guilt or shame just because that person is family and that's what one "should" do is a very unhealthy thing. According to National Crime Records Bureau (NCRB), 37.7% of the suicides in India are because of non-marriage related family problems. It is important to understand that everyone has downfalls and goes through periods of hardships, and this is normal and healthy for all families to endure. But, this doesn't apply to the family members that are abusive and an overall detriment to the family's wellbeing. Unfortunately, we can't choose our blood but we can choose the people with whom we want to be mentally and emotionally close.

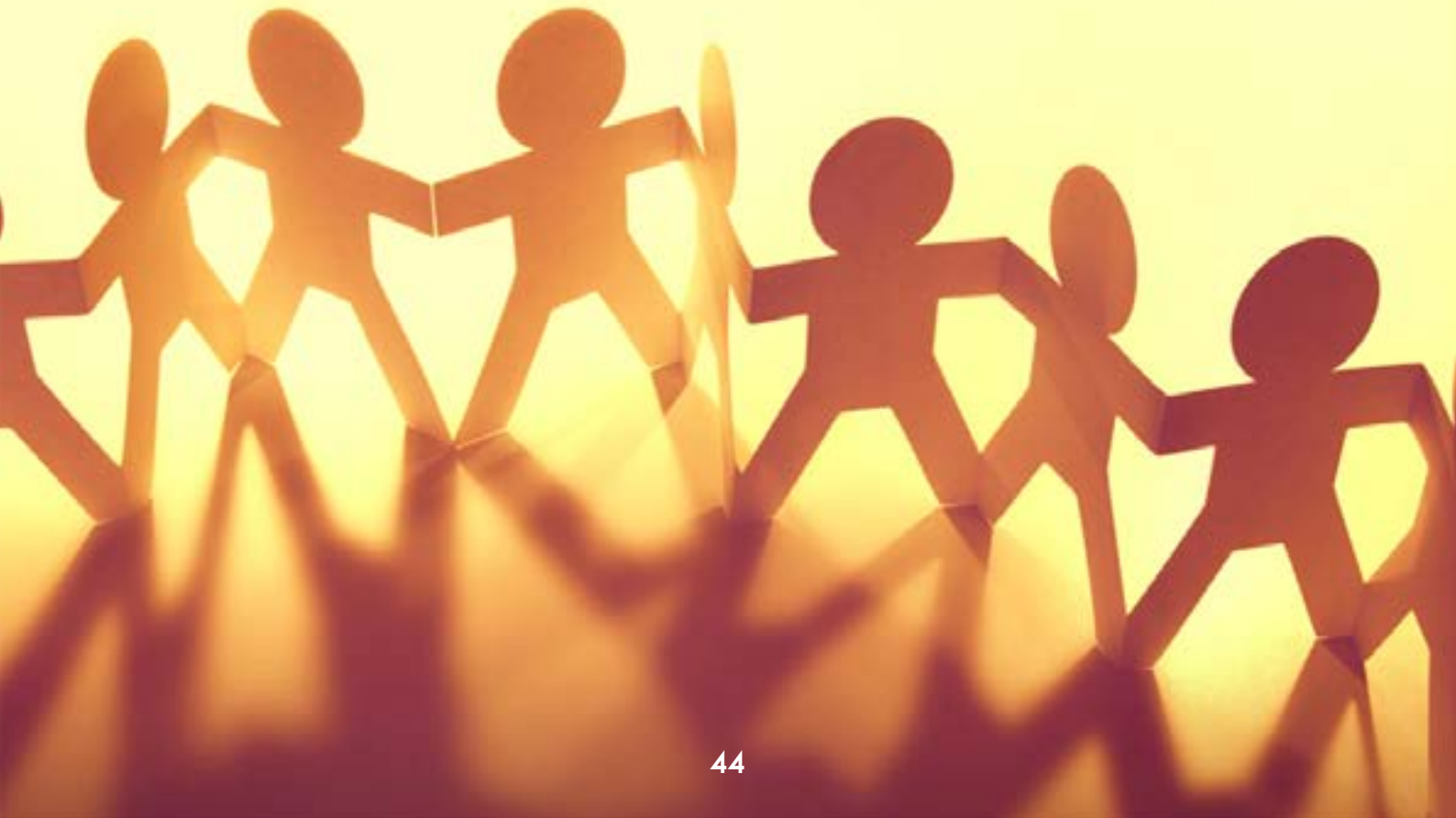


Sometimes family isn't so abusive but they just fail to understand you. Let us take a trip down the memory lane and recall Farhan from the movie '3 Idiots'. He wanted to pursue a career in photography but his Dad wanted him to become an engineer. It was his friends, Raju and Rancho, who supported him throughout and in the end he became a successful photographer and they acted more as a family, by being supportive and having his back, than his parents. If anyone in your life is the detriment to your mental health or the reason behind unnecessary dysfunctionality, including family, you don't need them in your life. Family is not just the blood that runs in the veins but more so, family are the people who help you feel loved regularly and truly support you. They genuinely wish the best for you and are your greatest cheerleaders and riveted listeners. They are fun to be around and are the ones who are actually there for you and uplift you emotionally and literally, in times of need. These people are family and all of them need not be blood relations. The title of 'father', 'aunt,' 'sibling' is just a hollow word if they are dubious, deceptive, and untrustworthy.

The title in itself does not denote the emotions that is expected of a family member. For many, close friends or a romantic partner is 'more family' than several of their blood relations and this chosen family is more loving, supportive, and better than their blood relations. This should be considered a beautiful happening and a cause for celebration that someone is gifted with friends and romantic partners who make up for the deficit of kind and loving family members. George Clooney, the famous American actor, and producer, said that during his hard times his close friends loaned him money and gave him shelter and he even has their names in his will.

But just because someone is bad for you does not necessarily mean you cannot have them in your life. You can tackle them with a clear sense of awareness and putting strong boundaries and mental protections in place. Many times family can also be positive, supportive, heartwarming, and life-affirming. A significant number of people have family members that are kind-hearted and fantastic characters. Then there are some people who have a mix of kind and not so great family members. And then there are a good number of people for whom their family members are downrightly awful. This is an extremely sad event but the only way for one to pursue and create healthy relationships in their life is to face this difficult truth and then to adjust their life and relations with this person accordingly.

Family isn't "everything" when one's family is not good to them and they are better off, happier, healthier, and safer, without these family members in their lives. We need to understand that for many, blood is not thicker than water. And that the people who acknowledge that and act accordingly with this reality are courageous and emotionally healthy. It is absolutely okay to cut out toxic family members out of your life, blood ain't thicker than peace of mind. ■

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