

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE
Mid-Semester Test – August 2019
GE 314 - General English – III Semester

PSA Special Course

INSTRUCTIONS

1. This paper is meant for students of PSA-SPL Course
2. This paper contains THREE printed pages and ONE section
3. Please indicate your stream clearly on the front page of your answer booklet.
4. You will lose marks for exceeding word limits.
5. You are allowed to use a dictionary during the test.
6. Answer all questions.

Time: 60 minutes

Max. Marks: 30

I Read Oxford Royale Academy's 2016 article *Fun Laws, Rules and Principles You Really Ought to Know*

Have you ever heard of Moore's Law?

It comes from Gordon Moore, who co-founded Intel, and it states that the number of transistors in a dense integrated circuit doubles approximately every two years. In isolation, that seems quite dull, but its implications are hugely significant. Put very crudely, it means that processing power is getting much better, all the time – which drives the limits of our technological progress.

But it's not a law in the sense that circuit designers will go to prison if they don't live up to it. Instead, it's an observation that has quite reliably turned out to be true (though the pace of advancement in electronics is now slowing down, and Intel now consider it to be nearer two and a half years than two). When you start to look for them, there are a lot of laws, rules and principles like this in general use, and they will sometimes be used without any further explanation (try googling "as per Moore's law" and see how few of the articles even mention what Moore's law is). In this article, we take a look at a collection of laws from different fields – some well-known, some not, but all of them useful or enjoyable.

1. Clarke's Third Law

Clarke's Third Law is short and sweet: "any sufficiently advanced technology is indistinguishable from magic". Arthur C. Clarke, who coined the law, was a science fiction writer who is probably best known for writing the novel and co-writing the screenplay of *2001: A Space Odyssey*.

Clarke wrote the novel *2001: A Space Odyssey* near-concurrently with his and Kubrick's screenplay. You can't do much of use with Clarke's Third Law – it doesn't help you predict anything, for instance – but it seems to resonate with people as expressing an identifiable truth all the same. That's the case both for scientists and for writers; Clarke himself was both. For writers of science fiction, it acts as something of a warning: go too far with the technologies you invent, and you might as well be writing a fantasy novel. But for scientists and inventors, it's an exciting promise: work hard, and you get to be a magician.

2. Asimov's Three Laws of Robotics

Another science fiction writer of the same period as Clarke, Isaac Asimov also had three laws, though unlike Clarke, all three of his have stood the test of time. Asimov's Three Laws of Robotics derive from his fiction, in that they are the laws that the robots in his fictional universe are programmed with. The laws are (in brief) 1. That a robot may not harm a human or allow a human to come to harm

through inaction, 2. That a robot must obey orders unless those orders conflict with the First Law, and 3. That a robot must protect its own existence unless that conflicts with the First or Second Law. Many of Asimov's stories revolve around how the laws might be misinterpreted, leading robots to do strange or undesirable things. But they are sufficiently well-known that they are often taught in university robotics courses – if only to demonstrate the difficulty of creating this kind of safeguard.

3. Betteridge's Law of Headlines

There are several different variations of Betteridge's Law of Headlines, named after different people (Ian Betteridge is a technology journalist), but the principle is the same: if a headline is phrased as a question, the answer is 'no'. There are plenty of websites that collect examples of Betteridge's Law in action, such as "Could Pokemon Go swing the November election?" and "Is it time to start taking Eurovision seriously?" It's there for a reason. Betteridge's Law works because if journalists are confident in what they're writing, the headline doesn't end up as a question. It's only when they're not sure of their claims, or when the headline is a hypothesis set up simply to be knocked back down again, that it ends up being phrased as a question – and so can usually be ignored.

4. Cunningham's Law

The first law on this list that concerns interactions on the internet, Cunningham's Law states that the best way to get the right answer on the internet is not to post a question – but to post the wrong answer. The idea is that people online are often unsympathetic to questions, especially questions they consider stupid. After all, there's a reason that sites like Let Me Google That for You exist, so that you can passive-aggressively direct your friends to the thing they should have googled for themselves in the first place.

But at the same time, the internet contains an army of people who are out there to correct any possible mistake they see. There's the man who has made 47,000 Wikipedia edits to correct the phrase "comprised of" (which he views as an error) to "composed of". So saying something mistaken – or even that other people perceive to be mistaken – is a great way to get responses fast.

5. Godwin's Law

Another internet-themed law, Godwin's Law is the principle that the longer an online discussion goes on, the more likely it becomes that someone will make a comparison to Hitler or the Nazis. It was originally coined as an observation, but has become more of a rule that to invoke Nazi comparisons is to lose the argument. The philosopher Leo Strauss made a similar point in pre-internet days, coining the phrase 'reductio ad Hitlerum' (which sounds like it would be one of the stranger spells in the *Harry Potter* universe), which is a fallacy whereby making a comparison to Nazism derails the argument rather than adding to it.

Arguably, this is true; aside from anything else, a comparison to Nazism is so extreme that it requires immediate rebuttal, and the debate can end up focusing on how much something resembles Nazism, rather than whether it's good or bad (so it might be bad in lots of non-Nazi ways). However, it's also been suggested that Godwin's Law stifles debate, as it means that when something *is* fascist in nature, it's hard to make that point without being accused of Godwinning the argument.

6. Campbell's Law

Campbell's Law, coined by social scientist Donald T Campbell, is a little more fiddly than some of the laws on this list, though no less interesting. It's that: "The more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor." Another version of this is Goodhart's Law: "When a measure becomes a target, it ceases to be a good measure."

Competitive entry won't necessarily result in the most deserving team. It's a concept best understood with examples. One obvious one is testing in schools. This is intended to be a measure, to see how well pupils are doing, and to teach them accordingly. But if this is used for social decision-making – for instance, to place some pupils in advanced classes – then there will be pressures to begin to treat it as a target; for instance, for parents to employ tutors to ensure that their children end up in the

advanced class. The more this happens, the more the measure becomes corrupted – in this example, because the test starts to measure not the ability of the pupils, but instead which parents spend money on tutors.

7. Occam's Razor

Occam's Razor is the weapon of choice against conspiracy theorists everywhere. It's not an actual razor; it's instead the principle that if you are explaining something, you should make the minimum necessary number of assumptions – or to put it more concisely, the simplest answer is usually correct.

8. The Pareto Principle

The Pareto Principle is the idea that it's often the case that 80% of the output in a particular situation comes from 20% of the input. In a noisy group of students, 20% of the students will be making 80% of the noise. In a call centre, 20% of the salespeople produce 80% of the sales. In healthcare, 20% of patients use 80% of resources.

It's obviously not the case that this is true in every situation, but it's applicable to a remarkable number all the same, and bearing it in mind can be invaluable. In the case of the noisy classroom, if you want quiet, it's useful to know that you only need to get 20% of the pupils to calm down in order to have the noise levels significantly reduced. If you're trying to save money on healthcare, tackle the problems of the resource-hungry 20% to find the biggest savings.

I A Answer the questions that follow in 120-150 words: [10x3=30]

1. What assumptions do Cunningham's law and Godwin's law seem to be making about the quality of internet debate? From your experience of using social media, do you agree with these assumptions?
2. "Occam's Razor is the weapon of choice against conspiracy theorists". How would you explain what a conspiracy theory is? Do you think the Occam's Razor would help identify a conspiracy theory?
3. Compile your own list of 3-5 laws or principles from any field of knowledge. Place them in order of importance and give reasons for your choices. You may also include laws/principles that you have come up with on your own.